

State of Transportation  
In Alameda County  
**2007-2008**

DRAFT PERFORMANCE REPORT

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

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January 2009



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# Executive Summary

## ALAMEDA COUNTY TRANSPORTATION SYSTEM

The 2007-2008 Performance Report provides information on how the transportation system is functioning in Alameda County. The report will also be used to help identify transportation improvements to be considered in Alameda County. County transportation improvements will be included in the Capital Improvement Program for the Congestion Management Program (CMP) and in future updates of Alameda County's long-range Countywide Transportation Plan.

## Performance Measures

This report measures the annual performance of three modes of transportation in Alameda County: highways, transit, and the bicycle network. It also discusses countywide pedestrian access, as defined in the 2006 Countywide Pedestrian Plan. This report does not monitor the progress of countywide pedestrian access, as no performance measures have been defined yet. Highway data is based on information collected from Caltrans and MTC. Transit data was collected from Alameda County's transit operators. Bicycle data was collected from the 15 jurisdictions in Alameda County. A summary table of the results of the performance measures for each mode is included at the end of this Executive Summary. The body of the report also includes tables with data summarizing the performance of each transportation mode. More detailed data are provided in the appendices.

Below are highlights of the report for each transportation mode. This is followed by an overview of the applied performance measures for the Alameda County transportation system in 2007-2008 (Table ES.1). For more detailed information and explanations, please refer to the complete report.

## Highways

Performance on highways in Alameda County is tracked in this report using the following measures:

- Level of Service - the level of congestion on County freeways and arterial roadways
- Average Speed/Travel Time - measured in each lane during the peak period
- Origin and Destination (O&D) Pairs Travel Times –travel times between destinations
- Vehicle Hours of Delay –amount of time travelers are delayed in traffic

## Highways (Cont'd.)

Measures to track how our County's roads are performing also include:

- Road Maintenance—quality of pavements throughout the County
- Accidents— the number of accidents along County freeways

## Level of Service (LOS)

Alameda County CMA measures Level of Service (LOS) Monitoring in the even-numbered years. The CMP roadways were most recently monitored in spring 2008. That information was included in the 2005/06 Performance Report and is included again here. Level of Service (LOS) is measured from A to F, with A representing no congestion and F representing the most congestion. Following are highlights from the 2008 LOS Monitoring Report:

- Based on the LOS monitoring performed by the CMA in spring 2008, speeds on freeways appear to have generally improved while arterials have remained stable.
- The percentage of freeways performing at LOS A, increased significantly in 2008, from 25.9 percent to 38.4 percent. 2008 showed the highest rate of freeways performing at LOS A since 2000, which was at the peak of the dot com period. The decreased levels of congestion were likely due to the downturn in the economy combined with increased gas prices.
- The percentage of freeways performing at LOS D, E and F, decreased from 45.3 percent in 2006 to 34 percent in 2008.
- In 2006, there were nine roadway segments that had operated at LOS F during the 2004 surveys but operated at an improved LOS in the 2006 surveys. In 2008, there were 15 improved LOS F segments.

## Origin & Destination (O&D) Pairs, Travel Times

Since 1996, the ACCMA has compared travel times for auto and transit for ten origin/destination pairs within Alameda County. Auto travel time has reduced and transit has increased compared to the times listed in the 2006 LOS Monitoring Report. In general, auto travel time shows more improvement than transit travel since 2006. Travel times range between 2 to over 5.5 times longer for transit than automobile travel for the 10 pairs studied.



## Vehicle Hours of Delay, Duration of Congestion

Since 2004, Metropolitan Transportation Commission has annually collected information on travel time for freeways in Alameda County and the Bay Area. Caltrans collected this data previously. The data is collected to identify: location of congestion; time of day that congestion occurs; and length of congestion (duration). The number of vehicle hours of delay (VHD) in comparison to previous years indicates whether congestion is increasing or decreasing. MTC's 2008 congestion data shows that congestion has increased by 8,900 VHD in Alameda County, which represents a 15% increase over the previous year. This continues the trend of increased congestion since 2003. The following are the important congestion findings from MTC's data on vehicle hours of delay in 2008:

- In 2007, congestion in Alameda County continued to account for nearly 40% of total congestion in the Bay Area. This is more than double the second most congested county, Santa Clara.
- I-80 in the morning peak retains its rank as the most congested corridor in Alameda County and the Bay Area. It holds 4 spots on the Top 10 most congested corridors list.
- I-580 continues to be the 2<sup>nd</sup> most congested corridor in the County. It holds 2<sup>nd</sup> and 3<sup>rd</sup> place in the top 10 congested locations.
- The vehicle hours of delay on eastbound I-580 in the afternoon increased by 10% in 2007 compared to 2006.
- On westbound I-580 in the morning, duration of congestion increased 1 hour and 15 minutes compared to 2006, and congestion began earlier in 2007 compared to 2006, i.e., instead of from 6:55 a.m. to 10:15 a.m., it shifted to 5:30 a.m. to 9:35 a.m.
- The largest increase in duration of congestion was on eastbound I-80 from Treasure Island to Powell Street in Emeryville in the afternoon peak period, which was congested for 170 minutes longer compared to 2006, a shift from nearly four hours to six hours 40 minutes.
- Of the eight comparable segments that were on both the 2006 and 2007 Top 10 congestion lists, congestion duration increased for five segments and decreased for three segments.

## Road Maintenance

MTC monitors the pavement condition of local streets by tracking the percentage of centerline miles for all roadway types in each jurisdiction from excellent to poor. They also weight the average Pavement Condition Index for the general pavement condition in the County. PCI is rated from 1 to 100, with 100 representing new roads. The average PCI for Alameda County roadways for 2007-08 was 65. This rating is within two percentage points of pavement condition that was reported last year. This rating is four percentage points better than pavement conditions reported last year. The average Alameda County PCI represents pavement conditions throughout 15 jurisdictions, which range from a seven percent decline to a six percent improvement in pavement conditions. Appendix E in the Performance Report shows PCI by jurisdiction.

In 2007, approximately, 76 percent of all the roadways were reported to be in fair to excellent condition in Alameda County. Pavement in very poor to very poor condition represents about 17 percent of the County's roadways, which indicates a six percent increase since the previous year.

### **Accidents on County Freeways**

Pending update from Caltrans.

### **Transit**

For FY 2007-2008, the average increase in ridership among Alameda County transit operators remained stable. However, this represents an average of a range from 2.8 percent decrease in ridership for AC Transit to a 16 percent increase at Capitol Corridor. AC Transit is the only operator that showed a decrease in ridership in 2007/08. The decrease of AC Transit ridership could be due to the downturn in the economy. The increase in ridership for the other transit operators could be attributed to the rise in gas prices combined with systemwide improvements implemented by the transit operators.

### **Bike Facility Construction**

In 2006, the CMA Board adopted the amended Alameda Countywide Bicycle Plan. Of the Plan's 549-mile "Vision Network," 219 miles are constructed and existing. This represents 40% of the Bike Plan's Vision. The Plan includes a list of 28 miles of High Priority projects, which is based on projects that could be completed within four years of adoption of the Bike Plan update. In 2007, less than one mile of High Priority Projects were constructed and progress was made on nine additional High Priority Projects. Progress includes completing plans, environmental studies, engineering and obtaining funds for the projects, which is a prerequisite to construction of bicycle facilities. Since 2007, there has been one Call for Projects for funding the High Priority Projects. Applications have been submitted but the projects have not yet been selected. This has affected the number of projects that have actually been constructed. Tables with details are included in the Bicycle Network section of this document.

Appendix F shows the location of the High Priority projects and transit priority zones that will be the focus of funding efforts for the next three years when the next update of the Countywide Bicycle Plan is anticipated. The High Priority Projects are listed in Table F-1 and shown in Figure F-1. This performance report monitors the implementation of the High Priority projects as well as the construction of other projects on the Countywide Bicycle Network.

### **Pedestrian Access**

The first Countywide Pedestrian Plan was adopted by the CMA Board and ACTIA in October 2006. This No performance measures have been established yet for tracking implementation of the capital projects in

the Plan. This Performance Report includes an overview of the Plan. Although there are no performance measures, the programs are moving forward. One example is the implementation of the Alameda County Safe Routes to Schools Program this year. Additionally, five jurisdictions are developing plans, moving the county toward the Countywide Pedestrian Plan's goal for each jurisdiction to have a pedestrian plan by 2011.

**Table ES.1—Summary of Applied Performance Measures**

PERFORMANCE MEASURE	OBJECTIVE OF CMP	2007-08 RESULTS	OBSERVATION
<b>HIGHWAYS</b>			
Level of Service (based on 2008 LOS Monitoring Report)	<ul style="list-style-type: none"> <li>▪ Mobility</li> <li>▪ Air Quality</li> </ul>	<p>Updates in 2008, as follows:</p> <p>Freeways: LOS A increased by 12.5%. LOS D, E, &amp; F decreased by 11.3%.</p> <p>Arterials: LOS A increased by 3.9%, LOS D &amp; E decreased by 4%.</p>	The changes from 2006 to 2008 show freeways improving and arterials remaining steady.
Average Speed (based on 2008 LOS Monitoring Report)	<ul style="list-style-type: none"> <li>▪ Mobility</li> <li>▪ Air Quality</li> <li>▪ Land Use</li> </ul>	<p>Updates in 2008, as follows:</p> <p>Freeways: 50.4 mph for the afternoon peak</p> <p>Freeways: 52.4 for the morning peak</p> <p>Arterials: 25.2 mph for the afternoon peak</p>	The average speed during the evening peak on freeways increased by 5.5% from 2006 to 2008, while on arterials it increased by 4.8%.
Travel Time (auto, transit and bike--based on 2008 LOS Monitoring Report)	<ul style="list-style-type: none"> <li>▪ Mobility</li> <li>▪ Air Quality</li> <li>▪ Land Use</li> </ul>	<p>Most recent information from 2008 follows:</p> <p>In general transit trips took 2 to 5.5 times longer than auto for the 10 pairs studied. Consistently Fremont- Pleasanton has the highest transit travel times that are over 4.5 times longer than auto.</p> <p>Bicycle trips in the northern part of the county continue to compete well with both auto and transit trips.</p>	<p>Overall auto travel time has reduced and transit times have increased since 2006.</p> <p>Most transit delay is associated with transfer between lines.</p>

PERFORMANCE MEASURE	OBJECTIVE OF CMP	2007-08 RESULTS	OBSERVATION
Duration of Congestion (based on 2007 Highway Congestion Data from MTC for Alameda County roadways)	<ul style="list-style-type: none"> <li>Economic</li> <li>Air Quality</li> </ul>	<p>Congestion measured in 2007 showed increased congestion levels on most of the top 10 corridors; with 63,900 VHD in 2008, which is up from 55,000 VHD in 2006, an increase of 15%.</p> <p>Eastbound Interstate 80 across the bridge in the pm peak registered an increase of 16% compared with 2006. Congestion on eastbound I-580 in the afternoon increased by 10% compared to 2006.</p>	<p>Although duration of congestion increased on the top three most congested corridors in the county, the VHD decreased in those three corridors. This could be due to travelers choosing to alter their commute time combined with a downturn in the economy.</p> <p>Construction on the bridge could contribute to increases in VHD on I-80 eastbound in the pm peak.</p>
Maintenance (Local)	<ul style="list-style-type: none"> <li>Economic</li> </ul>	<p>Pavement Condition:</p> <p>Excellent: 7 %</p> <p>Very Good: 25 %</p> <p>Good: 21 %</p> <p>Fair: 23 %</p> <p>Poor: 15 %</p> <p>Very Poor: 8 %</p>	<p>Percentage of roads reported to be in good or satisfactory condition changed by 1 % in the past year. This represents an average amongst the 15 jurisdictions.</p>
Accident Rates	<ul style="list-style-type: none"> <li>Mobility</li> <li>Air Quality</li> <li>Economic</li> </ul>	<p>Pending information from Caltrans</p>	TBD

## TRANSIT

PERFORMANCE MEASURE	OBJECTIVE OF CMP	2007-08 RESULTS	OBSERVATION
Ridership	<ul style="list-style-type: none"> <li>Economic</li> <li>Air Quality</li> <li>Land Use</li> </ul>	Transit ridership in terms of total annual passenger boardings in Alameda County has remained stable as an average of all transit operators in the County. This consists of one decrease combined with the remaining increases in ridership.	Ridership increases are likely due to increased gas prices and systemwide improvements by the Transit Operators. Decrease in ridership for AC Transit maybe due to the downturn in the economy.
Coordination of Services	<ul style="list-style-type: none"> <li>Mobility</li> <li>Air Quality</li> </ul>	Transfer facilities are located at BART, AMTRAK, ACE, Dublin and Livermore Transit Centers, two malls, Greyhound and ferry terminals	The greatest number of transfer opportunities is found at the BART stations.
Vehicle Maintenance	<ul style="list-style-type: none"> <li>Air Quality</li> </ul>	Bus Service: Miles between mechanical road calls reduced for AC Transit and UC Transit and increased for UC Transit. Rail: Mean time between service delays remained stable for BART and increased by 46% for ACE since last year.	BART is continuing their Strategic Maintenance Program (SMP) initiative for secondary repair.
Routing	<ul style="list-style-type: none"> <li>Mobility</li> <li>Air Quality</li> <li>Land Use</li> </ul>	Surface miles (directional route miles) covered by transit and service coverage increased by 3.5%, while passenger boardings increased by 2% on average.	Increased boarding's reported by transit operators are likely due to a combination of systemwide improvements by Transit Operators and increased gas prices.

PERFORMANCE MEASURE	OBJECTIVE OF CMP	2007-08 RESULTS	OBSERVATION
Frequency	<ul style="list-style-type: none"> <li>• Mobility</li> <li>• Air Quality</li> <li>• Land Use</li> </ul>	AC Transit and LAVTA have been providing 24 hours a day service since December 2005. BART increased frequency from 20 to 15 minute headways in the evenings and Sunday.	Bus frequency remained relatively consistent compared to last year for all periods. Union City added a Sunday shuttle to Northern Fremont. BART increased frequency during evening and Sunday service.

#### **BICYCLE**

Completion of Countywide Bike Plan	<ul style="list-style-type: none"> <li>• Mobility</li> <li>• Air Quality</li> </ul>	Less than 1 mile of the 28 miles of High Priority projects were constructed since the Bicycle Plan was adopted in October 2006. Nine additional High Priority projects showed progress in environmental, design and funding. .	Bicycle facilities are progressing in Alameda County.
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## CHAPTER ONE **Introduction**

The 2007/08 Performance Report, prepared by the Alameda County Congestion Management Agency (CMA), provides information on how the transportation system is functioning in Alameda County. This 12<sup>th</sup> Annual Performance Report also helps identify needed transportation improvements to be considered in the Capital Improvement Program for the Congestion Management Program (CMP) and in future updates of the long-range Countywide Transportation Plan.

The Performance Report is presented in four sections: highways; transit; bicycle network, and pedestrian access. The highway, transit and bicycle sections address performance measures for the three modes of transportation, as approved in the CMP (shown in Table 1). The pedestrian access section provides an overview of the County's pedestrian goals included in the Countywide Pedestrian Plan (2006). Because this is the first Countywide Pedestrian Plan, performance measures have not yet been identified, nor approved, to monitor pedestrian access.

The following discussion is an overview of highway, transit, bicycle, and pedestrian facilities in Alameda County. It also includes population and jobs information for the County to provide a context for whom the transportation system is serving. Finally, the introduction includes a list of the CMP-approved performance measures for which the progress of highway, transit and the bicycle network s is being tracked (Table 1). The remainder of the Performance Report provides more detailed data that tracks annual changes to the Alameda County Transportation system.

## **TRANSPORTATION MODES**

### **Highway**

The highway section of this Performance Report focuses on a portion of the transportation system in Alameda County defined as the Congestion Management Program (CMP) designated roadway system. The CMP system is a subset of the Metropolitan Transportation System (MTS), which includes the entire CMP-designated roadway system plus major arterials, transit services, rail, maritime ports, airports and transfer points that are critical to the region's movement of people and freight. Appendix A depicts both the CMP-designated system and the MTS. Highway data in this report is labeled as either pertaining to the CMP network or to the MTS.

About 215 miles of state facilities and 306 miles of local arterial roadways on the MTS are in Alameda County. The CMP network, a subset of the MTS, consists of:

- 134 miles of interstate freeways;
- 71 miles of conventional state highways; and
- 26 miles of local arterial roadways.

## **Transit**

The following transit services are available in Alameda County:

- BART;
- Bus service (both local and transbay) from AC Transit, Livermore-Amador Valley Transit (LAVTA), and Union City Transit, public-private shuttle services throughout the county and subscription bus service in East County;
- Ferry service, provided by the Alameda/Oakland Ferry and Alameda Harbor Bay Ferry; and
- Rail service, provided by the Capitol Corridor (Sacramento-San Jose) and Altamont Commuter Express (Stockton-San Jose).
- Appendix B shows the MTS Transit network in Alameda County.

## **Bicycle Network**

The CMA Board adopted the updated Alameda Countywide Bicycle Plan in October 2006. The Plan has three levels of investment: the Vision, the Financially Constrained network and the list of high priority projects. The Vision Network, when completed, will total 549 miles of bicycle facilities. About 219 of these miles (40%) are existing facilities and 330 miles (60%) are planned, new or improved facilities. In addition, the Bicycle Plan includes 17 new traffic signals, improvements to 27 freeway interchanges, 12 new bicycle/pedestrian bridges, underpasses and overcrossings, improved connections to transit and other needed improvements for bicycles. The High Priority projects consist of 28 miles of bicycle facilities, totaling \$36 million for construction. It is based on a list of projects that can be complete within four years of adoption of the Plan. The 212-mile Financially Constrained Network, a subset of the Vision network, is based on bicycle facilities that can be completed with available revenues over the next 25 years.

## **Pedestrian Access**

Alameda County's Countywide Pedestrian Plan establishes a vision for a walkable County, provides information about walking in the County, sets out priorities for countywide projects and programs, estimates a total cost for making these countywide pedestrian improvements, and guides countywide discretionary pedestrian funds. The Countywide Pedestrian Plan includes a Vision for Capital Projects, Pedestrian Program, and Planning Efforts of Countywide Significance.

## **ALAMEDA COUNTY CHARACTERISTICS**

The California Department of Finance estimated that Alameda County had a population of 1,526,148 in January 2007. Of the 58 counties in California, Alameda County was the 7th largest county in the State of California and the second largest in the Bay Area. ABAG estimated that there were 751,578 jobs in 2007.

## JOURNEY TO WORK INFORMATION

MTC's American Community Survey, 2007, reported how workers traveled to their workplace. According to this data, Alameda County workers were slightly more inclined to use an alternative mode to arrive at their workplace as compared to workers in most of the rest of the Bay Area. The only county with more people using alternative modes to work in the Bay Area is San Francisco.

	DRIVE ALONE	CARPOOL	TRANSIT	WALK	BIKE	OTHER	WORK AT HOME
Alameda County	67.2 %	10.2 %	10.7 %	3.5 %	1.4 %	2.0	3.5 %
Bay Area	68.0 %	10.8 %	9.8 %	3.5 %	1.2 %	1.7	5.0 %

The census also provided information on how long the average commuter travels to work and how far they travel. Commuters traveled five minutes longer and 1.5 miles further in 2000 than they did in 1990. Commute length is calculated based on area of residence, and, therefore, exclude interregional commuters. The increased travel time could be the result of longer commute length or increased congestion or both.

## PERFORMANCE MEASURES

Table 1 presents performance measures for highways, transit and bicycle in Alameda County. These measures were approved in the Congestion Management Program (CMP). Measuring the conditions of each mode for this report relied primarily on available data and established data collection processes. Summary tables are provided throughout the body of this report; more detailed data can be found in the appendices. Performance measures have not been developed for implementing the 2006 Countywide Pedestrian Plan. Monitoring of the progress of implementing the Pedestrian Plan will be reported in future Performance Reports.

**Table 1 – Performance Measures**

HIGHWAY	TRANSIT	BICYCLE
Level of Service	Routing	Implementation of Countywide Bicycle Plan
Average Speed/ Travel Time	Frequency	
Delay/Duration of Congestion	Coordination of Services	
Road Maintenance	Ridership	
Accident Rates	Vehicle Maintenance	



## CHAPTER TWO **Highways**

Performance on highways in Alameda County is tracked in this report in the following ways:

- Level of Service - measures the level of congestion on County freeways and arterial roadways
- Origin and Destination (O&D) Pairs Travel Times – measures travel times between destinations
- Vehicle Hours of Delay – measures amount of time travelers are delayed in traffic
- Road Maintenance – tracks quality of pavement throughout the County
- Accidents – the number of accidents along County freeways

Level of Service (LOS) and Origin and Destination (O&D) Pairs Travel Times are measured by Alameda County CMA in even-numbered years. The CMP roadways were most recently monitored in spring 2008. Vehicle hours of delay and road maintenance are measured by MTC yearly. Caltrans tracks the number of accidents yearly.

### **LEVEL OF SERVICE<sup>1</sup>**

Biennially, the CMA monitors the level of service (LOS) on all freeways and arterial roadways designated as the Congestion Management Program (CMP) network. The CMA monitored LOS in 2008.

Based on travel speeds, LOS is categorized into six levels: A through F. LOS A represents no congestion and LOS F represents the most congestion (see Appendix C for more details on LOS). As shown in Figure 1, the overall 2008 level of service on freeways has improved and arterials have remained steady since 2006. The percentage of freeways with LOS A increased significantly since 2006, with a corresponding decrease in LOS D, E and F during that time. Arterial performance shows an increase in LOS A and decreases in LOS D and E compared to 2006.

A summary of the results of the 2008 LOS Monitoring Report are included below.

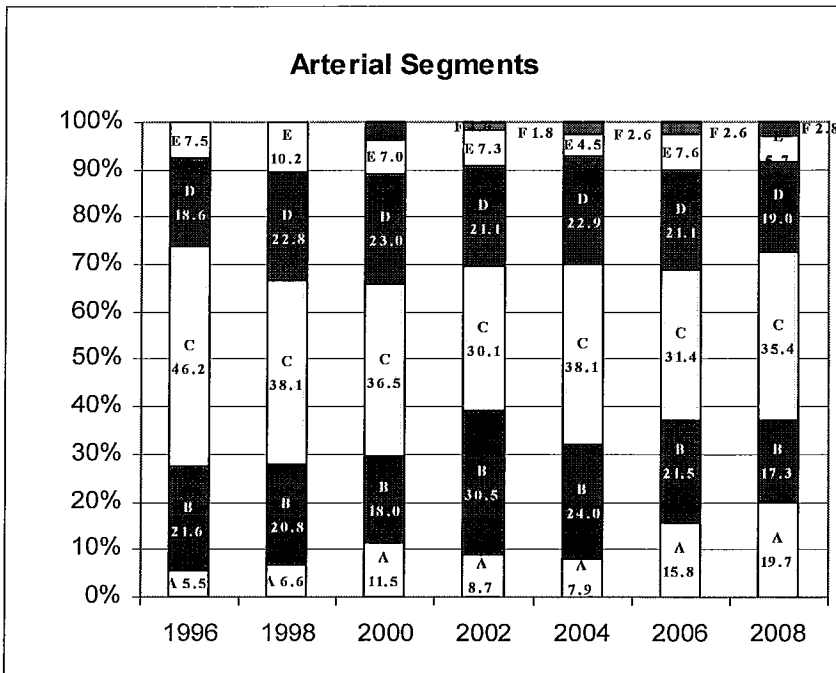
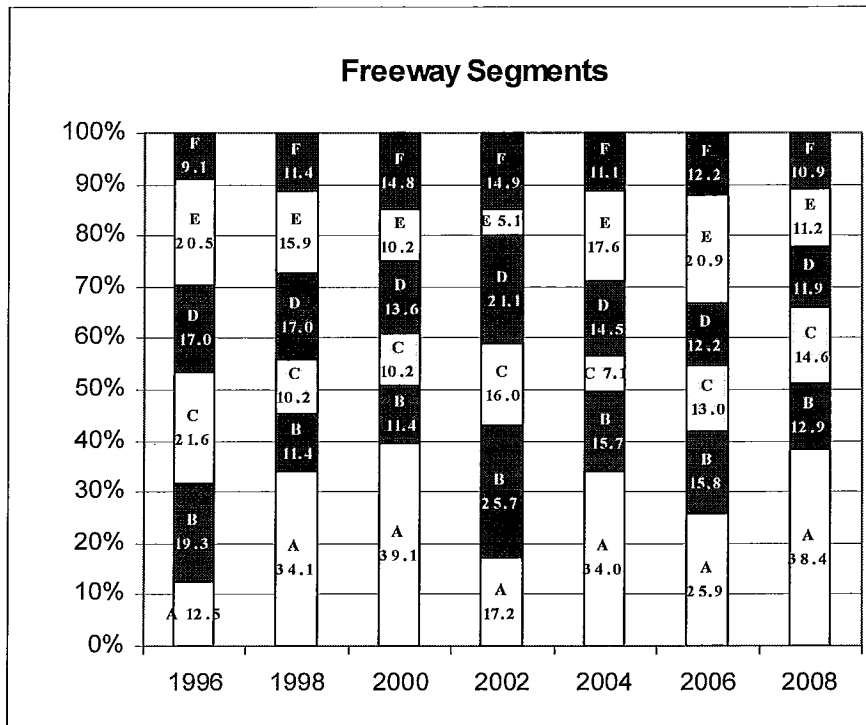
- The percentage of freeways performing at LOS A, increased significantly in 2008, from 25.9 percent to 38.4 percent. 2008 showed the highest rate of freeways performing at LOS A since 2000, which was at the peak of the dot com period. In 2008, the decreased levels of congestion were likely due to the downturn in the economy combined with increased gas prices.

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<sup>1</sup> For detailed information see *2008 Level of Service Monitoring for the Alameda County CMP Designated Roadway System*.

- The percentage of freeways performing at LOS D, E and F, decreased. From 45.3 percent to 34 percent.
- Average speeds in four freeway corridors increased notably in 2008 compared to 2006, while one freeway corridor experienced a significant drop in speed. The freeways that experienced a significant increase in speed are:
  - I-80 westbound from Central to Tollgate: The average speed increased from 27.7 miles per hour (mph) (LOS (Level of Service) F) to 36.2 miles per hour (LOS E).
  - I-880 southbound from I-980 to Dixon Landing: The average speed increased from 37.1 mph (LOS E) in 2006 to 47.6 mph (LOS D) in 2008.
  - I-580 eastbound from I-80/I-580 Split to I-238: The average speed increased from 39.3 mph in 2006 with LOS E to 47.0 mph, at LOS D, in 2008.
  - SR-13 northbound from Mountain to Hiller: The average speeds of 38.8 mph in 2006 with LOS E. increased to 51.0 mph, at LOS C, in 2008.
  - On SR 84 Niles Canyon westbound between Isabel and SR 238 average speeds have increased from 35.4 mph in 2006 to 40.9 mph, or LOS A, in 2008.
- Conversely, average speeds decreased as noted below:
  - I-680 northbound from Scott Creek to Alcosta: Average speeds have degraded from 52.9 mph in 2006 to 43.4 mph in 2008, a drop in LOS from C to D.
  - SR 238 Mission northbound from Jackson to I-680 northbound: average speeds decreased from 27.7 mph in 2006 to 23.1 mph, or LOS C, in 2008.
  - Decoto Road/Dumbarton Bridge eastbound from the County line to SR 238 where speeds decreased 30.3 mph in 2006 to 25.9 mph, or LOS C, in 2008.
- Other corridors either show modest increases or decreases in speeds with the exception of SR 24 westbound from Fish Ranch to I-580, a reverse commute direction. This corridor has stayed almost at the same speed ranging between 58.4 and 58.8 mph, since 2004.

**Figure 1—Level of Service on Freeways and Arterials**



Source: Alameda County CMA LOS Monitoring Reports, 1996-2008

Note: Level of Service on all CMP Freeways and Arterial segments between 4 to 6 PM on the average weekday

### Average Speed/Travel Time

Average highway speed is the average vehicular travel speed over specified segments, measured in each lane during the peak period. The CMA collects data biennially for the afternoon and morning peak periods. Table 2 indicates that travel time during the afternoon peak, as measured by speed, remained relatively stable over the last 10 years while speeds on both freeways and arterials increased between 2006 and 2008. Table 3 shows that travel time has steadily increased on freeways during the morning peak over the past decade. This is part of a trend for the average travel speed on the freeways to increase since 2002 while on arterials it has fluctuated within the same general range during that time. The 2008 travel time surveys showed 2.6 miles per hour increase in average speeds on the freeway system and 1.1 miles per hour on the arterials during the p.m. peak period. The a.m. peak period experienced an increase of 2.4 mph on freeways and 0.6 mph on arterials. The freeway corridors that experienced degradation in service levels were mostly due to construction activity occurring in the county. Also, in some instances, as a result of splitting longer segments into shorter ones, consistent with the adopted 2007 Congestion Management Program (CMP), some shorter segments that had been part of an average longer segment, have been identified as having decreased travel times.

**Table 2—Average Vehicle Speed in the Afternoon Peak (in miles per hour)**

ROAD TYPE	CENTER-LINE MILES	1998	2000	2002	2004	2006	2008
Arterials *	96.2	22.63	23.64	23.27	24.32	24.11	25.21
Freeways **	134.3	51.47	51.02	51.21	49.86	47.83	50.43

Source: Alameda County CMA, LOS Monitoring Reports, 1996-2008

Notes:

\* Includes local arterials and conventional state highways

\*\* Includes Interstate and other freeways

**Table 3—Average Vehicle Speed on Freeways in the Morning Peak (in miles per hour)**

1996	1998	2000	2002	2004	2006	2008
44.1	42.4	38.1	42.03	46.51	50.0	52.4

Note:

- The length of the number of segments monitored increased from 55 miles to 90 miles in 2002 to 232 miles in 2006.
- The speed data for 2006 shown in Table 3 is not comparable with previous years because until 2004 only a few selected roadway segments --90 miles in length--mostly peak direction, were monitored. However, in 2006 all of the CMP roadways (232 miles) were monitored. The increased average speed in 2006 is likely due to averaging the peak and non-peak direction speeds.



Table 4 compares vehicle speeds for selected segments during the morning peak. Notable observations found in the data include:

- Approximately half of the segments monitored show increases in speed in 2008 compared to 2006. This is likely due to the economic downturn.
- On I-880, the segment that experienced the greatest decline in speed occurred in the Vargas to SR-238 segment, which decreased from 57.7 miles per hour to 38.1 miles per hour.
- The greatest increase in speed was from SR-262 to Dixon Landing Road, which increased from 20.3 to 57.1 miles per hour, a total of 36.8 miles per hour.

**Table 4—Comparison of Speeds in the Morning Peak (in miles per hour)**

SEGMENT	1998	2000	2002	2004	2006	2008
<b>I-880 Southbound</b>						
• Marina to A St.	57.4	38.2	50.1	36.5	27.3	
• Split to 2 new segments						33.9
○ Marina to 238 WB						
○ I-238 to A Street						24.1
• A St. to SR-92	58.1	15.9	21.9	40.6	32.0	29.4
• SR- 92 to Tennyson	53.6	31.3	42.5	48.6	38.3	30.3
• Tennyson to Alvarado-Niles	36.3	28.8	46.2	49.1	43.8	38.8
• SR-262 to Dixon Landing	9.6	11.4	N/A	21.4	20.3	57.1
<b>I-880 Northbound</b>						
• Alvarado-Niles to Tennyson	42.3	32.9	31.3	33.7	24.4	26.2
• Tennyson to SR-92	49.6	45.9	41.4	53.3	41.5	45.3
• SR-92 to A St.	55.3	36.3	44.8	42.5	45.7	52.9
• A St. to Marina	52.7	57.3	55.8	44.9	50.7	59.0
<b>I-238 Westbound</b>						
• I-580 to I-880	20.6	18.0	22.5	20.2	15.4	
<b>I-680 Southbound *</b>						
• Alcosta to I-580	65.3	57.7	63.0	69.0	64.3	67.4
• I-580 to Bernal*	67.2	64.6	63.5	67.1	54.7	*
○ I-580 to Stoneridge (new)						59.1
• Bernal to Niles (SR84)*	40.3	56.8	46.2	66.0	55.6	*
○ Bernal to Sunol Blvd (new)						41.3
○ Sunol Blvd to SR84 (new)						51.0
• Niles to Mission*	12.9	17.6	28.2	61.0	57.7	*
○ Niles to Andrade						46.9
○ Andrade to Sheridan						55.7
○ Sheridan to Vargas						
○ Vargas to SR238						41.6
						38.1

<b>I-580 Westbound</b>							
• Portola to Tassajara*						30.8	*
○ Portola to SR84							29.4
○ SR84 to El Charro						43.5	41.9
○ El Charro to Tassajara						32.4	27.5
							40.9
							52.8
• Tassajara to I-680*						60.6	63.8
						44.0	50.6
						46.1	54.3*

Source: Alameda County CMA, *LOS Monitoring Report*, 1996-2008

Notes: \*routes that were not studied in 2008 because they were broken into smaller segments.

## Origin/Destination Pairs

Since 1996, the ACCMA has compared travel times for auto and transit for ten origin/destination pairs within Alameda County. The results, shown in Table 5, indicate that overall auto has reduced travel time and transit has increased travel time compared to 2006. In general, auto travel time shows more improvement than transit travel since 2006. Travel times range between 2 to over 5.5 times longer for transit than automobile travel for the 10 pairs studied. The improvements in auto travel time in nine out of 10 pairs can be attributed to the economic downturn and record high gas prices.

Alameda County also compared travel times for bicycles. Similar to previous years, bicycle trips in the north part of the County continue to compete favorably with both auto and transit in 2008.

**Table 5—Comparative Travel Times for Origin/Destination Pairs in the Afternoon Peak (minutes)**

PAIR	1998	2000	2002	2004	2006	2008
1—Hayward to Thornton Avenue, Newark	Auto—24 Transit—88	Auto—22 Transit—92	Auto—22 Transit—79	Auto—16 Transit—90	Auto—19 Transit—86	Auto—14 Transit—74
2—Chiron Emeryville to Marin Circle, Berkeley	Auto—25 Transit—61 Bicycle—33	Auto—26 Transit—NA Bicycle—30	Auto—25 Transit—56 Bicycle—30	Auto—28 Transit—53 Bicycle—33	Auto—22 Transit—45 Bicycle—30	Auto—22 Transit—70 Bicycle—32
3—CSU, Hayward to Delaware Way, Livermore	Auto—53 Transit—144	Auto—45 Transit—152	Auto—49 Transit—141	Auto—61 Transit—120	Auto—61 Transit—113	Auto—54 Transit—143
4—Downtown Oakland to Chapel Ave., San Leandro	Auto—35 Transit—74	Auto—29 Transit—64	Auto—32 Transit—56	Auto—41 Transit—70	Auto—34 Transit—66	Auto—27 Transit—145
5—NUMMI Plant, Fremont to Hansen and Valley Avenue, Pleasanton	Auto—31 Transit—130	Auto—34 Transit—122	Auto—33 Transit—125	Auto—27 Transit—146	Auto—39 Transit—181	Auto—27 Transit—82
6—Fremont from Thornton Avenue/Fremont Boulevard to Fujitsu (Hitachi) in San Jose	Auto—39 Transit—129	Auto—55 Transit—104	Auto—49 Transit—118	Auto—30 Transit—94	Auto—33 Transit—111	Auto—23 Transit—111

PAIR	1998	2000	2002	2004	2006	2008
7—Fremont to San Jose HOV Lane (future Transit Service to be added when facilities are in place)	NA	Auto—35 Transit—NA	Auto—34 Transit—NA	Auto—27 Transit—NA	Auto—25 Transit—NA	Auto—23 Transit—NA
8—Oakland, from Federal Building. to Hansen and Valley Avenue in Pleasanton	Auto—58 Transit—81	Auto—60 Transit—96	Auto—60 Transit—70	Auto—45 Transit—77	Auto—57 Transit—75	Auto—41 Transit—107
9—Fremont, Washington Hospital to Searidge in Alameda	Auto—50 Transit—86	Auto—57 Transit—74	Auto—53 Transit—70	Auto—64 Transit—123	Auto—52 Transit—102	Auto—43 Transit—94
10—Alameda Naval Air Station to College Ave. in Oakland	Auto—21 Transit—51	Auto—17 Transit—47	Auto—21 Transit—45	Auto—22 Transit—45	Auto—21 Transit—43	Auto—22 Transit—51

*Source: Alameda County CMA, LOS Monitoring Reports, 1996-2008*

## BICYCLE COUNTS

For the fifth time, bicycle count data is included in the LOS Monitoring Report. Since 2002, bicycle counts have been collected by the local jurisdictions at twelve (12) major intersections across the County for the LOS Monitoring Study. Counts were collected at the same locations in 2008. In 2008, eight of the 12 intersections showed an increase in bike usage and 4 showed a decrease. The highest volume increase was at Milvia Street and Hearst Avenue in Berkeley with 82 more bicycles than 2006. The highest decrease in bike usage was in Fremont at Paseo Padre Parkway and Mowry Avenue where the bike counts decreased by 27% from 22 in 2006 bicycles to 16 in 2008 or 6 bicycles.

## DELAY/DURATION OF CONGESTION

Since 2004, Metropolitan Transportation Commission has taken the responsibility for annually collecting the information on travel time for freeways in Alameda County and the Bay Area. Previously Caltrans collected that data. The data is collected to identify location of congestion, time of day that congestion occurs, and length of congestion (duration). The number of vehicle hours of delay (VHD) in comparison to previous years indicates whether congestion is increasing or decreasing.

## Vehicle Hours of Delay (VHD)

Table 6, Total Weekday Delay on Freeways, identifies the VHD on all Alameda County freeway facilities between 1996 and 2007. In 2007, congestion in Alameda County continued to account for nearly 40% of total congestion in the Bay Area, which is more than double that of the congestion in the second most congested county, Santa Clara. In 2007, congestion for Alameda County increased by 8,900 vehicle hours of delay. This represents a 15 percent increase since the previous year. This continues the trend of increased congestion registered since 2003. In terms of total delay in Alameda County, I-80 (after accounting for congestion outside the County), accounts for 26% VHD, I-580 accounts for 20% VHD and I-880 accounts for 15% VHD.

**Table 6—Total Weekday Delay on Freeways** (in vehicle hours of delay)

YEAR	TOTAL HOURS	% CHANGE FROM PREVIOUS YEAR
1998	41,800	+18.1
1999	44,300	+ 6.0
2000	61,700	+39.3
2001	65,600	+6.3
2002	61,300	- 6.6
2003	46,300	-24.5
2004	50,500	+9
2005	52,300	+4
2006	55,000	+6%
2007	63,900	+15%

*Source:* MTC, (2004 - 2007 Congestion data) and Caltrans District 4, Highway Congestion Monitoring Data (1996-2003).

Note: Data was not collected in 1997.

## Top 10 Congested Locations

Now new data was collected since 2007. The top 10 most congested corridors were reported in the previous Performance Report. This Report also adds vehicle hours of delay and duration of congestion from MTC's 2007 data.

2007 congestion data continues to show increased congestion compared to previous years. Table 7 shows the comparison of VHD for the top 10 locations for 2005, 2006, and 2007. There is an increase in daily congestion in the Top 10 by a total of 2,720 VHD, a rise of about 6% during the one-year period between 2006 and 2007.

Eight of the top 10 most congested locations in 2007, as shown in Appendix D, are retained by the same roadway segments as in 2006. Interstate 80 in the morning peak continues to retain its rank as the most congested corridor in Alameda County and the Bay Area Region. I-80 is holding three spots on the Top 10 list. I-580 continues to be the second most congested corridor in the county by holding 2<sup>nd</sup> and 3<sup>rd</sup> place in the top 10 congested locations in the County. The vehicle hours of delay on the eastbound I-580 in the afternoon increased by 10% in 2007. Of the Top-10 congested corridors in Alameda, congestion on I-80, accounts for 38% of VHD (this includes congestion outside Alameda County), I-580 accounts for 28% of VHD.

Of the Top 10 Congested locations, Eastbound SR-92 stayed in 4<sup>th</sup> place with a nominal increase in congestion (1 percent). Eastbound I-80 in the afternoon from McArthur maze to Albany, that made the list for the first time in 2006, dropped off the top 10 list in 2007. Similarly, northbound I-880 from West Grand Avenue to Maritime Street, which has been on and off the top 10 list of congested corridors over the past few years, dropped off the list in 2007.

### **Duration of Congestion in the Top 10**

The Highway Congestion Monitoring also provides additional data on the duration of congestion for each freeway. Table 8 compares the duration of congestion for the Top 10 congested locations in Alameda County for the years 2005, 2006, and 2007. A decrease in vehicle hours of delay, without a geographic change in congestion, generally results in a decrease in the duration of congestion.

- On westbound I-580 in the morning, duration of congestion increased 1 hour and 15 minutes compared to 2006, and congestion began earlier in 2007 compared to 2006, i.e., instead of from 6:55 a.m. to 10:15 a.m., it shifted to 5:30 a.m. to 9:35 a.m.
- The largest increase in duration of congestion was on eastbound I-80 from Treasure Island to Powell Street in Emeryville in the afternoon peak period, which was congested for two hours and 20 minutes longer compared to 2006, a shift from nearly four hours to six hours 40 minutes.
- Of the eight segments that were on both the 2006 and 2007 Top 10 congestion lists, congestion duration increased for six segments and decreased for two segments.





**Table 7—Vehicle Hours Delayed in Top 10 Congested Corridors in Alameda County**

2005				2006			2007		
Rank	SEGMENT	PEAK	VHD	SEGMENT	PEAK	VHD	SEGMENT	PEAK	VHD
1.	WB I-80:* SR-4 to Bay Bridge	a.m.	10,930	WB I-80:* SR-4 to Bay Bridge	a.m.	12,230	WB I-80:* SR-4 to Bay Bridge	a.m.	11,100
2.	EB I-580: I-680 to E/O El Charro	p.m.	6,100	EB I-580: I-680 to W/O El Charro	p.m.	6,720	EB I-580: I-680 to Greenville	p.m.	7,410
3.	WB I-580: N. Flynn Rd. to Airway	a.m.	5,830	WB I-580: W/O N.Flynn Rd. to W/O Airway	a.m.	5,320	WB I-580: I-205 to Hacienda	a.m.	5,120
4.	EB SR-92: Clawitter to I-880	p.m.	3,880	EB SR-92: Clawitter to I-880	p.m.	3,880	EB SR-92: Industrial to I-880	p.m.	3,930
5.	EB I-80*: Yerba Buena Island to Powell St	p.m.	3,120	EB I-80*: Bryant St/5 <sup>th</sup> St to Sterling St. in SF and W/O Treasure Island to Powell St in Emeryville	p.m.	3,030	SB I-880 Marian Blvd to So. of Industrial	a.m.	3,790
6.	WB I-80:* At Toll Plaza & Incline Section of SFOBB to Fifth St.	p.m.	2,800	WB I-80:* At Toll Plaza & Incline Section of SFOBB to Fifth St.	p.m.	2,760	EB I-80*: Bryant St/5 <sup>th</sup> St to Sterling St. in SF and W/O Treasure Island to Powell St in Emeryville .	p.m.	3,530
7.	EB I-80: I-580 to N/O Gilman St.	p.m.	2,350	EB I-80: McArthur Maze to Albany	p.m.	2,470	NB I-880: Decoto to Alvarado-Niles & at Whipple & Industrial to Tennyson	p.m.	2,880
8.	EB SR-24: W/O 52 <sup>nd</sup> St to Caldecott Tunnel	p.m.	1,890	NB I-880: W. Grand Ave. to Maritime St.	a.m.	2,440	WB I-80*: McArthur Maze to 5 <sup>th</sup> Street, San Francisco	a.m.	2,480
9.	WB I-80: Gilman St. to I-580	p.m.	1,780	EB SR-24: E/O Telegraph to Caldecott Tunnel	p.m.	1,890	SB I-880 Thornton to Mission Blvd/262	p.m.	2,640
10.	NB I-880: W. Grand Ave. to Maritime St.	a.m.	1,750	SB I-880: N/O Fremont Blvd. to S/O SR 262	a.m.	1,920	EB SR 24: I-580 to Orinda	p.m.	2,500

*Source:* Caltrans Highway Congestion Monitoring Data (2002-2003). MTC (2004-2007)

*Note:* \* indicates portion of the segment falls outside Alameda County.

Table 8—Duration of Congestion in Top 10 Congested Corridors in Alameda County

2005				2006				2007			
RANK	SEGMENT	PEAK	TIME	SEGMENT	PEAK	TIME	SEGMENT	PEAK	TIME		
1	WB I-80:* SR-4 to Bay Bridge	a.m.	05:45- 10:15	WB I-80:* SR-4 to Bay Bridge	a.m.	05:20- 09:40	WB I-80:* SR-4 to Bay Bridge	a.m.	05:50- 09:40		
2	EB I-580: I-680 to E/O El Charro	p.m.	02:50- 07:35	EB I-580: I-680 to W/O El Charro	p.m.	03:05- 07:20	EB I-580: I-680 to Greenville	p.m.	02:50- 07:30		
3	WB I-580: N. Flynn Rd. to Airway	a.m.	05:55- 09:20	WB I-580: W/O N.Flynn Rd. to W/O Airway	a.m.	06:55- 10:15	WB I-580: I-205 to Hacienda	a.m.	05:30- 09:35		
4	EB SR-92: Clawitter to I-880	p.m.	03:05- 07:20	EB SR-92: Clawitter to I-880	p.m.	03:05- 07:20	EB SR-92: Industrial to I-80	p.m.	03:15- 06:50		
5	EB I-80*: Yerba Buena Island to Powell St.	p.m.	03:05- 07:10	EB I-80*: Bryant St/5 <sup>th</sup> St to Sterling St. in SF and W/O Treasure Island to Powell	p.m.	03:20- 07:10	SB I-880*: Marian Blvd to So. of Industrial Emeryville	a.m.	06:35- 9:35		
6	WB I-80:* At Toll Plaza & Incline Section of SFOBB to Fifth St.	p.m.	04:00- 07:10	WB I-80:* At Toll Plaza & Incline Section of SFOBB to Fifth St.	p.m.	03:45- 07:10	WB I-80:* Bryant St/5 <sup>th</sup> St to Sterling St. in SF and W/O Treasure Island to Powell	p.m.	1:40- 8:20		
7	EB I-80: I-580 to N/O Gilman St.	p.m.	02:45- 06:25	EB I-80: McArthur Maze to Albany	p.m.	02:45- 06:25	NB I-880: Decoto to Alvarado-Niles & at Whitman & Industrial to Thornton	p.m.	02:35- 7:05		
8	EB SR-24: W/O 52 <sup>nd</sup> St to Caldecott Tunnel	p.m.	03:50- 07:00	NB I-880: W. Grand Ave. to Maritime St.	a.m.	06:05- 10:20	EB I-80: McArthur Maze to Albany .	p.m.	02:35- 7:05		
9	WB I-80: Gilman St. to I-580	p.m.	02:40- 06:15	EB SR-24: E/O Telegraph to Caldecott Tunnel	p.m.	03:30- 07:10	SB I-880: Thornton to Mission Blvd/262	a.m.	06:16- 10:15		
10	NB I-880: W. Grand Ave. to Maritime St.	a.m.	06:00- 08:55	SB I-880: N/O Fremont Blvd. to S/O SR 262	a.m.	06:15- 09:35	EB SR 24: I-580 to Orinda	a.m.	04:00- 06:45		

*Source:* Caltrans Highway Congestion Monitoring Data (2001-2003). MTC -(2004 - 2007)

*Note:* \* indicates portion of the segment falls outside Alameda County.

## ROAD MAINTENANCE

### Local Jurisdictions

MTC monitors the pavement condition of local streets by weighting the average Pavement Condition Index (PCI) for the general pavement condition within defined networks. In Alameda County, they weight the pavement condition for the entire County and each city within the County. The PCI is weighted on a scale of 0 to 100, with the highest rating being new pavement, with a PCI of 100.

### PCI Categories

MTC rates PCI by classification from excellent to poor, as indicated in Table 9. They use this system to track the percentage of centerline miles within each roadway type in each jurisdiction.

**Table 9—Rating of Pavement Condition**

CLASSIFICATION	PCI RANGE
Excellent Condition	PCI of 90-100
Very Good Condition	PCI of 75-89
Good Condition	PCI of 60-74
Fair Condition	PCI of 45-59
Poor Condition	PCI of 25-44
Very Poor Condition	PCI below 25

*Source:* MTC, Pavement Management System

### PCI Categories in Alameda County

Table 10 shows the percentage of centerline miles for all roadway types in each of the classification categories. Roadway types include MTS and non-MTS, including arterials, collectors, and residential. Approximately 76 percent of all the roadways were reported to be in fair to excellent condition in Alameda County in 2007-08. Pavement in very poor to very poor condition represents about 17 percent of the County's roadways, which indicates a six percent increase since the previous year.

Table 10—Pavement Condition in Local Alameda County Jurisdictions  
*Measured by percentage of total pavement condition*

CATEGORY	1996	2003	2004 <sup>2</sup>	2005 <sup>3</sup>	2006 <sup>4</sup>	2007
Excellent Condition	NA	18	21	12	12	7
Very Good Condition	NA	31	34	35	37	25
Good Condition	54	16	18	21	20	21
Fair Condition	25.9	13	13	16	14	23 <sup>5</sup>
Poor Condition	15.1	11	7	11	11	15
Very Poor Condition	5	5	2	5	6	8 <sup>6</sup>

Source: MTC, Pavement Management System.

*Notes:*

1. Not all jurisdictions reported data for all years.
2. In 2004-05, there was no data for 4% of the roadways monitored.
3. In 2005, MTC switched to calculating PCI based on lane miles, rather than centerline miles, which had been used since 2002.
4. In 2006, the City of Oakland changed the way they reported PCI.
5. Fair condition includes a new “at risk” category in 2007.
6. Very poor condition indicates “failed” in 2007.

## Pavement Condition Index (PCI) in Alameda County

MTC reported that the average PCI for Alameda County roadways for 2007-08 was 65. This rating is four percentage points better than pavement conditions reported last year. The average Alameda County PCI represents pavement conditions throughout 15 jurisdictions, which range from a seven percent decline to a six percent improvement in pavement conditions. Appendix E in the Performance Report shows PCI by jurisdiction.

## State Facilities

Caltrans is responsible for maintaining the freeways and state highway system. Under the state system, assessment of pavement condition differs from the Pavement Condition Index. Since 1978, the types of ride (i.e., rough ride) and structural problems have been monitored in the State. The combination of these two factors is the initial step in determining if a segment should be scheduled for improvement.

## **OPERATORS**

Eight operators provide transit service in Alameda County: BART, AC Transit, LAVTA, Union City Transit, ACE Commuter Rail, Capitol Corridor, Alameda-Oakland Ferry Service and Harbor Bay Ferry Service.

### **Bay Area Rapid Transit**

The Bay Area Rapid Transit (BART) system provides rail transit service in Alameda as well as Contra Costa and San Francisco and the northern portion of San Mateo County. Approximately half of the current weekday ridership involves travel between the East and West Bays.

BART overview for Fiscal Year (FY) 2007-2008:

- Average miles per trip, systemwide—13.5
- Number stations—43 stations total, including 19 stations in Alameda County
- Number of Weekday routes—5
- Weekday headways/peak periods—varies from 5 minutes minimum to 15 minutes maximum headway
- Evening service number of routes—3
- Evening service headways—15 minutes (reduced from 20 minutes in January 2008)

The average age of a rail car was 11.7 years in 2007. The average life expectancy of a car is 20 to 25 years for new cars and 15 years for rehabilitated cars.

### **AC Transit**

AC Transit operates two main types of bus service: East Bay local service and TransBay service, as well as the joint Dumbarton service with Union City and Palo Alto. An overview of AC Transit service for Fiscal Year 2006/7 follows.

AC Transit operated the following routes in FY 2007/08

- 72 East Bay local routes including 2 Limited routes
- 7 Routes Offering Community Destination-Based Service
- 1 Lifeline-funded route, providing service to help meet needs of a low-income community
- 2 Rapid Lines, 2 Limited Lines

- 28 TransBay routes including their distinct derivations, with service across the Bay Bridge, the San Mateo Bridge and the Dumbarton Bridge.
- 6 “All-Nighter” routes providing Transbay and east-bay service at times when BART isn’t running.

AC Transit has an active bus fleet of approximately 700 buses. The average age of its fleet in FY 2007/08 was 6.48 years, which is slightly reduced from the previous year. The average life expectancy of a bus is 12 to 16 years.

### **East Bay Local Service**

This service offers local stop service within the AC Transit service area (most of Alameda County and West Contra Costa County), including supplemental school service offered during the school months and community-based service that provides sporadic and direct mid-day service from community centers to shopping and other services.

### **TransBay Service**

This service operates from East Bay to the TransBay Terminal in downtown San Francisco, as well as service across the San Mateo Bridge to the Hillsdale Mall terminal in San Mateo.

### **Dumbarton Route**

Dumbarton Express Service is a bus service operated by AC Transit across Dumbarton Bridge between Union City and Palo Alto. A consortium of AC Transit, BART, SamTrans, Union City Transit and Valley Transportation Authority provide the Dumbarton Express Service.

### **Livermore Amador Valley Transit Authority**

Livermore Amador Valley Transit Authority (LAVTA) provides:

- Local service to the cities of Dublin, Livermore and Pleasanton and to the adjacent unincorporated areas of Alameda County;
- WHEELS dial-a-ride, an ADA-mandated demand responsive service to elderly and disabled persons in Dublin, Pleasanton and Livermore;
- Peak Period bus service to Pleasant Hill; and
- Supplemental Service during academic year for middle and high school

LAVTA’s active fleet in FY 2007/08 included:

- 64 active fixed route buses, including a pool of 5 buses used for the express routes; Average fleet age for the fixed route buses is 7.15 years.
- 30 paratransit vehicles (a 10% increase above the previous year).



- LAVTA provides service 24 hours a day; and
- Headways during peak periods—15 to 45 minutes depending on the route.

### **Union City Transit**

Union City Transit provides fixed route and paratransit services within the city limits of Union City. Currently, Union City Transit contracts with MV Transportation for operations and maintenance. Union City Transit coordinates its service with AC Transit, BART, and the Dumbarton Express bus. Union City Transit offers the following service:

- Weekday service between 4:15 a.m. to 10:20 p.m.
- Saturday service between 7:00 a.m. to 7:30 p.m.
- Sunday service 8:00 a.m. to 6:30 p.m.

Union City Transit has an active fleet of 15 fixed route buses and five paratransit vehicles. The average age of the fleet was nine years in FY 07/08. The average life expectancy of a vehicle is 12 years.

### **Alameda/Oakland Ferry**

Alameda/Oakland Ferry provides service between San Francisco's Ferry Building, San Francisco's Pier 39, Alameda's Main Street terminal and Oakland's Jack London Square. The City of Alameda administers the service. Weekday service includes 11 commute and four midday departures. Service hours are 6:00 a.m. to 9:30 pm with one hour headways during the peak period. Weekend schedules vary seasonally with nine departures per day during the summer. Seasonal service is offered from Alameda, Oakland and Angel Island State Park, as well as AT&T Park for Giants games.

### **Alameda Harbor Bay Ferry**

Alameda Harbor Bay Ferry provides passenger ferry service between Alameda's Bay Farm Island and the San Francisco Ferry Building. Weekday service consists of three morning and four evening commute period trips.

### **ACE Commuter Rail**

ACE Commuter Rail provides service between Stockton and San Jose during the weekday morning and evening commute periods only. The service operates three round trips per day running approximately one every hour between the commute hours of 4:20 a.m. and 6:40 a.m. and 6:42 p.m. and 8:53 p.m.. The midday service operates one round trip to San Jose weekdays, from 9:30 a.m., with a return trip at 2:15 p.m. Four stations are in Alameda County: Fremont, Pleasanton, Livermore and Vasco Road..

## Capitol Corridor

Capitol Corridor service is an Intercity Rail Service managed by the Capitol Corridor Joint Powers Authority (CCJPA). The service provides intercity connections between the Bay Area and the Auburn-Sacramento area, with connections running through Oakland to San Jose. For fiscal year 07/08, Capitol Corridor is maintaining 32 weekday trains between Oakland and Sacramento. This includes 14 that connect between Oakland and San Jose, which is up from eight trains in the previous year. The average lifespan of a Capitol Corridor train is 20 years with regular overhauls. The majority of the Capitol Corridor ridership is from the Sacramento area into the Bay Area. In Alameda County, the Capitol Corridor stops at Berkeley, Emeryville (which serves as a connection to San Francisco via motor coach service), Oakland (Jack London Square and Coliseum) Hayward, and Fremont. The Capitol Corridor is supported by capital and operating funds from the State of California. The rolling stock is owned by the State as well. As part of its System Transit Transfer Program, the CCJPA provides free transit transfers for use on AC Transit East Bay buses for customers and reimburses AC Transit for each transfer used. It also sells \$10 value BART tickets for \$8 in the café cars. (CCJPA pays for the difference).

## PERFORMANCE MEASURES

This section analyzes the following performance measures that track how the transit system has performed in Alameda County over the past year:

**Routing-** the number of passengers being served systemwide (this report includes both systemwide Alameda County passenger numbers and labels tables accordingly). This is measured in the amount of surface area covered by trackway for rail and roadway for bus services, the intensity of use of these surfaces and the number of passengers served.

**Frequency-** how often the transit service is provided by route.

**Coordination of transit services-** the number of transit routes serving the major Alameda County transportation terminals.

**Ridership-** measures passenger boardings in the following ways: 1) total transit ridership; 2) ridership per revenue vehicle hour ; 3) ridership per revenue vehicle mile, and 4) weekday passenger boardings.

**Vehicle Maintenance-** a measure of how often transit operators repair their vehicles. For bus operators, it is measured as miles between mechanical road calls. For rail operators, it is measured as mean time between mechanical failures.

## ROUTING

Routing is used to determine how many passengers are being served by transit. To do this, three measures are used:

- How much surface (roadway or trackway) is covered by transit (directional route miles);

- The amount and intensity of service provided on that surface area (total vehicle miles/directional route miles); and
- Total passengers.

Table 13 summarizes the data for the above three measures for four transit operators: AC Transit, BART, LAVTA and UC Transit. ACE data is not included as it is not available solely within Alameda County. See Appendix F for more detailed data about transit routing by operator in Alameda County.

While transit service has varied year to year, overall more transit service is being provided and more people are being served over time. Since the first Performance Report in 1990, transit operators have provided more frequent headways, more routes and more route miles to more people.

Table 13 shows that, compared to last year, routing changes within Alameda County include a: 3.5 percent increase in surface miles covered by transit; 3.3 percent increase in service provided; and a steady number (less than one percent increase) in systemwide passenger boardings.

**Table 13—Transit Routing within Alameda County**

MEASURE	YEAR					
	02/03	03/04	04/05	05/06	06/07	07/08
Directional Route Miles	1,839	1,764	1,918	1,757	1,851	1,917
Service Coverage (000)	275.6	306.2	309.1	322.3	335.4	385
Total Annual Systemwide Passengers Boardings (000)	90,065	92,822	93,052	97,501	99,073	99,281

Source: Statistical Summary of Bay Area Transit Operators, Metropolitan Transportation Commission, and transit operators by special request.

Notes:

- The summary totals include data from the following transit operators in Alameda County: AC Transit, Union City Transit, LAVTA, BART and Capitol Corridor. See Appendix F tables for a breakdown by operator.
- Directional Route Miles is a measure of surface area (roadway and trackway) served. For example, a one-mile segment of road over which transit operates in both directions would be reported as two miles, while a one-mile segment traversed by vehicles six times in the same direction would be counted as one-mile.
- Service Coverage is Total Vehicle Miles/Directional Route Miles. A measure of the amount of service provided, including number of routes and frequency, on the transit system. For instance, a one-mile segment traversed by vehicles six times in the same direction would be counted as six-miles.

The above data shows that the overall efficiency of the transit service with respect to these four operators in Alameda County has improved. Ridership increased in all of the four transit operators. Changes made by individual operators are described under the Ridership section of this report.

## **FREQUENCY**

Frequency is measured by how often transit service is provided by route. Information is provided in Table 14 for the peak commute hours, as well as for the midday and evening periods. For BART and bus, frequency is measured by the headway, which is the time (number of minutes) between the trains. For Amtrak and ACE, frequency is measured by the number of train lines provided. Service hours vary by operator (i.e., AC Transit and LAVTA—24 hours a day; Union City Transit—6:00 a.m. to 9:00 p.m.; and BART—4:00 a.m. to 12:00 a.m.). Data presented are for activity through FY 2007/2008.

For bus service, Table 14 shows the number of bus routes in Alameda County by arrival rate or headways. AC Transit and LAVTA have provided 24-hours a day service since December 2005. The AC Transit “All Nighter” routes provide Transbay and East-Bay service at times when BART is not running. During the peak commute hours, 93 percent of Alameda County bus routes (77 routes) arrive every 40 minutes or less and 27 percent (22 routes) arrive every 15 minutes or less. Compared to the previous year, buses maintained the same frequencies.

BART serves 19 Alameda County stations. Depending on the trip origin or destination, service is provided every 2 ½ to 15 minutes during the peak commute periods. In January 2008, BART changed service from every 20 minutes to every 15 minutes after 7:00 p.m. weekdays, Saturdays and all day Sundays. Three transfer points at MacArthur and 12<sup>th</sup> Street in Oakland, and Bay Fair Station in San Leandro provide transfers between BART lines.

Ferries had neither scheduled major service changes, nor had any service disruptions in FY 07/08.

Table 14—Transit Service Frequency in Alameda County<sup>1</sup>

HEADWAYS/ DIRECTION (minutes)	PEAK PERIOD <sup>2</sup>								MIDDAY <sup>3</sup>								EVENING <sup>4</sup>							
	01/ 02	03/ 04	04/ 05	05/ 06	06/ 07	07/ 08	01/ 02	03/ 04	04/ 05	05/ 06	06/ 07	07/ 08	01/ 02	03/ 04	04/ 05	05/ 06	06/ 07	07/ 08	01/ 02	03/ 04	04/ 05	05/ 06	06/ 07	07/ 08
Bus																								
6-15	39	37	25	31	22	22	10	9	12	12	13	13	10	0	2	4	5	5						
16-25	19	15	16	21	14	14	6	7	3	4	4	4	15	0	2	10	4	4						
30-40	63	71	52	45	41	41	56	57	40	42	35	35	49	45	37	39	24	24						
45-60	7	12	12	11	5	5	15	19	17	22	11	11	17	28	11	14	12	12						
90	1	1	0	0	0	0	3	2	1	2	0	0	2	0	0	3	0	0						
BART																								
2.5-6 <sup>6</sup>	6	10	10	10	10	10	6	9	9	9	9	9	0	0	0	0	0	0						
7-15 <sup>7</sup>	11	9	9	9	9	9	13	10	10	10	10	10	6	9	9	9	9	19						
16-20	2	0	0	0	0	0	4	0	0	0	0	0	13	10	10	10	10	0						
Amtrak/Capitol Corridor																								
Eastbound	4	4	4	4	4	4	4	4	4	4	4	4	2	4	4	4	4	4						
Westbound	4	4	4	4	4	4	3	4	4	4	4	4	2	4	4	4	4	4						
ACE <sup>9</sup>	NUMBER OF TRAINS (peak period service only)																							
	00/01	01/02	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25
Eastbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
Westbound	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						

Notes:

<sup>1</sup> Source: transit agencies staff. FY 2001/02 bus service includes AC Transit, while FY 2003/04 and FY 2004/05 bus service includes AC Transit and LAVTA. AC Transit service includes Trans Bay service.

<sup>2</sup> Peak hour service is defined as 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

<sup>3</sup> Midday service is defined as 9:00 a.m. to 4:00 p.m.

<sup>4</sup> Service hours vary by operator (i.e., AC Transit and LAVTA—round the clock; Union City Transit—4:15 a.m. to 9:20 p.m.; and BART—4:00 a.m. to midnight.).

<sup>5</sup> BART has 19 stations in Alameda County: Fremont, Union City, South Hayward, Hayward, Bayfair, San Leandro, Coliseum/Oakland Airport, Fruitvale, Lake Merritt, Oakland City Center/12th Street, 19th Street, MacArthur, Rockridge, Ashby, Berkeley, North Berkeley, West Oakland, Castro Valley and Dublin/Pleasanton.

<sup>6</sup> Two sets of stations are served by three lines. MacArthur, 19<sup>th</sup> Street, and 12<sup>th</sup> Street stations are served by the Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma, and Richmond-Fremont lines. Bay Fair, San Leandro, Coliseum/Oakland Airport, Fruitvale, and Lake Merritt stations are served by the Richmond-Fremont, Fremont-Daly City, and Dublin Pleasanton-San Francisco Airport (SFO)/Millbrae lines. One station (West Oakland) is served by four lines (Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma,, Fremont-Daly City, and Dublin/Pleasanton- San Francisco Airport (SFO)/Millbrae lines ).

<sup>7</sup> Each of the four lines that use the TransBay Tube (Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma, Dublin/Pleasanton-San Francisco Airport (SFO)/Millbrae, and Fremont-Daly City) operates with 15 minute headways, except for the Pittsburg/Bay Point Daly City line, which operates with 7 minute headways during the peak hours.

<sup>8</sup> Capitol Corridor serves five stations in Alameda County: Fremont-Centerville, Hayward, Oakland, Emeryville, and Berkeley.

<sup>9</sup> ACE has four stations in Alameda County: Fremont, Pleasanton, Livermore and Vasco Road.

## COORDINATION OF TRANSIT SERVICE

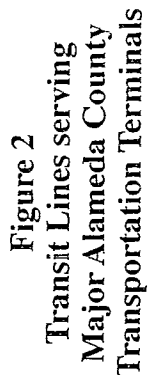
In order to measure the coordination of transit service in Alameda County, the number of transit routes serving major Alameda County transportation terminals for the peak commute period in FY 2007/08, excluding school breaks, was provided by the transit operators. No changes have been made since FY 2007/08. Figure 2 shows the number of transit lines (i.e., BART, AirBART, AC Transit, Union City Transit, LAVTA, and ACE) at major transportation terminals in Alameda County, including BART, AMTRAK and ACE stations, the Dublin and Livermore Transit Centers, and the Oakland and Alameda ferry terminals.

The ACE trains have been operating service between Stockton and San Jose in the morning and afternoon peak periods since 1998. The downtown Livermore ACE station, as well as LAVTA and ACE, are at the Livermore Transit Center.

LAVTA operates two dedicated connector routes to Pleasanton ACE station. Livermore ACE station is located next to Livermore Transit Center. Union City Transit added a line at the Union Landing Station in FY 06/07.

The greatest number of transfer opportunities is found predominantly at BART stations: Fremont (19 lines), Hayward (28 lines), Union City (17 lines), 12<sup>th</sup> Street (16 lines), Downtown Berkeley (18 lines), and Dublin/Pleasanton (16 lines). The Hayward Greyhound stop has 10 lines that go through the station. AC Transit also has many lines connecting to Eastmont Mall and Newpark Mall.

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## RIDERSHIP

Transit ridership can be reported in a number of ways. For purposes of this report ridership is provided as:

- Annual Systemwide Passenger Boardings;
- Passenger Boardings per Revenue Vehicle Mile;
- Passenger Boardings per Revenue Vehicle Hour, and
- Weekday Passenger Boardings.

By transit operator, the systemwide ridership changes over the last year are as follows:

**Table 15, Annual Systemwide Ridership Changes 2007-08**

*Compared to previous fiscal year*

PROVIDER	PERCENT INCREASE
AC Transit	-2.6
BART	4.2
LAVTA	4.6
Union City Transit	4.3
ACE Commuter Rail	13.7
Alameda Harbor Bay Ferry	8.2
Alameda/Oakland Ferry	3.5
Capitol Corridor Intercity Rail	16.6

NA = Information is not available.

The following service changes were made by the Alameda County transit operators in FY 2007/08.

- LAVTA—Made changes to about half of its bus routes. The changes have mainly been realignment, service extension, increased operation times, and changes in frequency. There have also been route additions (1E, 3V, and 612) as well as removal of Route 162 and Route 163.
- AC Transit—No service changes reported in FY 07/08.
- BART—Reduced headways during evening and Sunday service from 20 minutes to 15 minutes' replaced single route service from Dublin/Pleasanton to SFO and Millbrae with two-route service: Pittsburg/Bay Point trains serve the San Francisco Airport station, while trains from Richmond run to Millbrae. On nights and week-ends, the Dublin/Pleasanton line, instead of trains from Richmond, serves Millbrae.
- ACE—No service changes reported in FY 07/08.
- Ferries—No changes reported in FY 07/08.
- Union City Transit—Implemented a Sunday service shuttle pilot program to Northern Fremont.
- Capitol Corridor—No service changes reported in FY 07/08.

## Passenger Boardings

As shown in Table 16, on average, systemwide transit passenger boardings last year remained stable in Alameda County last year. With the exception of AC Transit, whose ridership decreased, the other transit operators reported increases in ridership up to 16 percent (Capitol Corridor) compared to the previous year. With the exception of AC Transit, all transit operators showed increases in ridership in the past three years. BART, LAVTA and the ferries reached their highest ridership since 2001. This increase in ridership likely reflects the sharp increases in gas prices. Additionally, service and program changes contributed to increases in ridership. For example, BART increased frequency in the evenings and Sundays.

**Table 16—Total Annual Systemwide Passenger Boardings (in 000's) <sup>1</sup>**

OPERATOR	02/ 03	03/ 04	04/ 05	05/ 06	06/ 07	07/ 08
AC Transit	62,104	64,456	64,409	66,962	66,970	65,194
BART	93,591	97,545	99,296	103,654	109,020	115,228
LAVTA	1,922	1,936	1,938	2,037	2,136	2,234
Union City Transit	442	431	381	398	421	438
ACE	665	616	641	642	708	805
Alameda- Oakland Ferry	426	420	382	426	443	458
Alameda-Harbor Bay Ferry	106	112	84	132	134	145
Capital Corridor	1,139	1,165	1,260	1,285	1,223	1,694
<b>TOTAL</b>	<b>159,210</b>	<b>165,515</b>	<b>166,109</b>	<b>175,531</b>	<b>181,055</b>	<b>186,197</b>

Source: MTC, Statistical Summary of Bay Area Transit Operators 2001. Data since FY 2001/02- is provided by the transit operators by special request.

Data from Capitol Corridor for all years for Alameda County were added to the table for the first time in the FY 2005/06 Performance Report.

\*Note: NA = Not available. ACE service began in 1998.

## Passenger Boardings per Revenue Vehicle Mile

Passenger Boardings per Revenue Mile, shown in Table 17, is the number of passengers divided by the number of miles the transit vehicle is in revenue service. The measure excludes miles traveled to and from storage facilities and other deadhead travel.

**Table 17—Total Annual Systemwide Passenger Boardings (per revenue vehicle mile)**

OPERATOR	02/03	03/04	04/05	05/06	06/07	07/08
AC Transit	3	2.7	3.1	3.2	3.1	3.05
BART (rail only)	1.7	1.6	1.7	1.7	1.7	1.7
LAVTA	1.04	1.04	1.15	1.28	1.2	1.27
Union City	1.13	1.2	NA	0.80	0.87	0.95
ACE	1.09	0.79	0.86	0.89	1.1	.98
Alameda-Oakland Ferry	9.36	7.39	7.82	8.73	9.08	8.68
Alameda Harbor Bay Ferry	6.15	4.63	7.41	4.75	4.85	5.03

Passenger Boardings per Revenue Miles varied by operator, either increasing or remaining fairly stable in the last year for all the transit operators.

### **Passenger Boardings per Revenue Vehicle Hour**

Passenger Boardings per Revenue Vehicle Hour (RVH), as shown in Table 18, is the number of passengers per the total number of hours that each transit vehicle is in revenue service, including layover time. The measure excludes hours consumed while traveling to and from storage facilities and during other deadhead travel. The Alameda County transit operators remained fairly stable since last year.

### **Weekday Passenger Boardings**

Table 19 shows the total number of weekday passenger boardings for AC Transit, BART and ACE within Alameda County. BART and ACE showed increases in weekly passenger boardings over the previous fiscal year, while AC Transit decreased 3.8 percent. The data indicates that weekday boardings for the rail operators continue to show improvements that began five years ago, and AC Transit reversed their trend of increasing weekday passenger boardings with a slight decline in ridership in 2007/08.

**Table 18—Total Annual Systemwide Passenger Boardings (per revenue vehicle hour)**

OPERATOR	02/03	03/04	04/05	05/06	06/07	07/08
AC Transit	30.45	31.2	36.1	33.9	36.75	31.90
BART (rail only)	57.2	53.8	56	56.9	59.1	59.4
LAVTA	14.6	15.7	16.9	17.7	20.5	19.2
Union City	11.78	11.6	NA	10.33	10.85	11.05
ACE	32.8	31.2	NA	32.5	33.4	38.5
Alameda-Oakland Ferry	94.9	86.85	79.39	88.19	91.67	95.35
Alameda Harbor Bay Ferry	76.9	68.02	76.61	78.90	80.35	84.0

Source: Data provided by the transit operators by special request.

**Table 19—Average Weekday Passenger Boardings within Alameda County\***

OPERATOR**	02/03	03/04	04/05	05/06	06/07	07/08
AC Transit <sup>1</sup>	181,509	185,035	184,575	199,524	199,635	192,055
BART	107,742	110,087	111,303	116,502	120,989	126,098
ACE	864	800	800	829	852	1,053
TOTAL	291,870	297,547	297,087	318,539	321,476	319,206

Source: AC Transit, BART and ACE staff

\* Boardings are listed as unlinked trips (i.e., transfers are included).

\*\* All of the service provided by LAVTA, Union City, and Oakland-Alameda Ferry within Alameda County can be found in Table 16.

\*\*\*ACE service began in 1998. Based on total daily boardings. The Alameda County figures are based on 33% of the systemwide riders for ACE. Previous Performance Reports included ACE's systemwide average weekday passenger boardings in this table.

<sup>1</sup> Based on total weekday passenger boardings. Systemwide boardings for ACT Transit were reduced by 12 % to reflect Alameda County boardings only. The 12 % reduction is based on hours of operating service in Alameda County and population served by AC Transit.

## VEHICLE MAINTENANCE

Rail and bus transit operators have different indicators of vehicle maintenance.

- Bus operators report on Miles Between Mechanical Road Calls

- BART and ACE report on the Mean Time Between Failures

For all transit modes, fewer miles between road calls or failures can be a sign of an aging fleet. A larger number of miles generally indicates a newer fleet or a higher proportion of newer vehicles, and can also indicate improved training of mechanics maintaining the fleet.

Service calls are for a variety of reasons including mechanical problems, farebox issues, and broken lights. They include service calls to the dispatch yard, the bus terminals, BART, as well as vehicles in-route and those that are either in-service or about to go into service.

As shown in Table 20, AC transit reported a stable amount of miles between road calls in 2007/08 compared to the previous year. LAVTA reported an 18 percent increase in miles between road calls while UC Transit reported a 24 percent decrease of miles between mechanical road calls compared to the previous fiscal year. LAVTA's increase in miles between road calls may be due to an aging fleet.

**Table 20—Miles between Mechanical Road Calls for bus operators**

OPERATOR	02/03	03/04	04/05	05/06	06/07	07/08
AC Transit	4,400	6,600	6,300	7,685	5,746	5,648
LAVTA	8,691	13,540	28,797	27,459	25,601	20,866
UC Transit	15,831	5,553	7,120	6,394	9,186	6,926

*Source:* AC Transit, Short Range Transit Plan, 1994-2003 and transit agency staff for more current data.

*Note:* Union City Transit changed their method for reported miles between mechanical road calls in 2006.

BART and ACE collect data to determine the average time between service delays. Train delays can be caused by personnel or by mechanical failures. Table 21 indicates that the BART system has improved steadily since 2001. BART has stated that the increase in Mean Time between Service Delays, which resulted in a reduced number of delays, could be attributed to:

- Engineering initiatives to target problematic vehicle systems;
- Focused mainline technical intervention in response vehicles fails, thereby avoiding delay; and
- The start of the Strategic Maintenance Program (SMP) initiative in secondary repair, which is stringent reliability-centered engineering analysis and Lean Manufacturing techniques, thereby increasing component reliability.

The Mean Time between Service Delays for ACE in 2007/08 was 1,875. This represents a 46 percent increase compared to the previous year.

**Table 21—Mean Time between Service Delays (annual average)**

OPERATOR	2002	2003	2005	2006	2007	2008
BART	1597	1,901	2016	2,435	3004	3,007
ACE*	3357	3,784	3,784	NA	1,279	1,875

Source: BART and ACE staff.

\*Note: ACE service began in 1998.

## Major Mechanical System Failures

The Federal Transit Administration defines a major mechanical system failure as a mechanical problem in which the vehicle does not complete its scheduled revenue trip or does not start its next scheduled revenue trip because actual movement is limited or because of safety concerns. The failure may occur in revenue service including layover/recovery time or during deadhead. Transit agency employees or outside personnel may repair the vehicles. Revenue vehicle system failures are reported as major mechanical system failures if they limit actual vehicle movement or are safety issues.

Examples of major bus failures include breakdowns of air equipment, brakes, doors, engine cooling system, steering and front axle, rear axle and suspension and torque converters. Major BART vehicle systems include automatic train operation, brake, auxiliary electric, door, propulsion and electric couplers. BART had 214 major system failures in FY 2007/08, which is stable compared to the previous year<sup>1</sup>.

## OBSERVATIONS ABOUT THE TRANSIT SYSTEM

Transit ridership in FY 2007/08 remained stable on average for all Alameda County operators. However, this represents an average among all the operators. Only one operator reported a decrease in ridership, which was AC Transit. AC Transit's small reduction in ridership could be attributed to a downturn in the economy. The remaining operators' increases in ridership may be attributed to drastic increases in gas prices combined with service improvements from some of the operators. BART, Union City, and ACE made modifications to service to increase ridership, productivity, streamline performance, and increase on time performance and service awareness.

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<sup>1</sup> As of the 2006/07 Performance Report, the numbers for BART's major mechanical system failures were changed compared to previous years. BART was notified at that time by NTD to only include major system failure incidents that result in offload or canceled dispatch and to not include incidents that only result in service delays.

## CHAPTER FOUR **Bicycle Network**

Tracking progress of projects in the Countywide Bicycle Plan is a performance measure that indicates how the Plan is being implemented. The Countywide Bicycle Plan was adopted by the Alameda County CMA Board in 2001, and updated in 2006, at which time it was also adopted by the ACTIA Board. It includes projects to improve bicycle access and safety within Alameda County and to connect to neighboring counties. This chapter discusses the goals of the Bicycle Plan and tracks progress on the High Priority projects that have been completed since the Bicycle Plan was adopted in October 2006. Since that time, there has been one Call for Projects for funding the High Priority projects, which has affected the number of High Priority projects that have actually been constructed. This report monitors the progress of implementing the High Priority projects.

### **COUNTYWIDE BICYCLE PLAN**

The 2006 updated Bicycle Plan has three levels of investment: the Vision, the Financially Constrained network and the list of High Priority projects. Included in these levels of investment are three implementation components: the bikeway network, transit priority zone projects and rehabilitation of the on-street bicycle network projects. Also included are four programs: Signage, Maintenance, Parking and Education/Promotion. This Performance Report monitors the progress of the High Priority Projects, which are the focus of Alameda County CMA's efforts in implementing the Bike Plan. It also notes construction of the remaining bicycle projects in the Vision portion of the Plan.

The Vision network encompasses 549 miles of bicycle facilities. When the Bicycle Plan was amended in October 2006, about 212 of these miles of these facilities, or 38%, were existing and 337 miles (61%) were planned, new or improved facilities. Since the Plan was adopted, an additional seven miles of bicycle facilities have been constructed. This includes one mile of High Priority projects. (See Appendix F for more detailed information.) Therefore, the Plan now has 219 miles, or is 40% complete. The 212-mile Financially Constrained Network, a subset of the Vision network, is based on bicycle facilities that can be completed with available revenues over the next 25 years. The list of High Priority projects is based on projects that could be completed within four years of adoption of the Bike Plan amendment. The High Priority list consists of 28 miles of bicycle facilities. It also includes transit-priority zone and bicycle rehabilitation projects.

### **High Priority Projects**

This Performance Report primarily focuses on tracking progress of the 28 miles of High Priority projects in the Countywide Bicycle Plan. Since the Bicycle Plan was adopted in October 2006, as shown in Appendix G, less than one mile of High Priority Projects was constructed and progress was made on nine

additional High Priority Projects. Progress includes completing plans, environmental studies, engineering and obtaining funds for the projects, which is a prerequisite to construction of bicycle facilities.

Appendix G shows the details of the High Priority projects and Transit Priority Zones that will be the focus of funding efforts for the next update of the Countywide Bicycle Plan is complete. The High Priority Projects are listed in Table F-1 and shown in Figure F-1. Table F-2 lists the progress made on the Vision portion of the Bicycle Plan where an additional six miles were constructed. The Alameda Countywide Bicycle Plan describing the full Vision network and programs can be accessed on the ACCMA website at [www.accma.ca.gov](http://www.accma.ca.gov).



## CHAPTER FIVE **Pedestrian Access**

The ACTIA and CMA Boards adopted the first Alameda Countywide Strategic Pedestrian Plan in 2006. The Pedestrian Plan identifies and prioritizes pedestrian improvements and programs that are needed to increase walking and improve its safety on a countywide level. The capital improvements are targeted to areas of countywide significance which are defined as key transit and major activity centers and inter-jurisdictional trails. The Pedestrian Plan also includes countywide priorities for education and promotion programs, and local pedestrian master plans. Annual Performance Measures have not yet been created to monitor the progress of implementing the capital projects in the Pedestrian Plan. In future years, this Performance Report will include the results of any monitoring that tracks implementation of the Pedestrian Plan. Although no performance measures have yet been established, programs identified in the Countywide Pedestrian Plan are moving forward. An example is the implementation of the Alameda County Safe Routes to School Program this year. Additionally, five jurisdictions are developing plans, moving the county toward the Countywide Pedestrian Plan's goal for each jurisdiction to have a pedestrian plan by 2011.

### **COUNTYWIDE PEDESTRIAN PLAN**

Alameda County's Countywide Pedestrian Plan establishes a vision for a walkable County, provides information about walking in the County, sets out priorities for countywide projects and programs, estimates a total cost for making these countywide pedestrian improvements, and guides countywide discretionary pedestrian funds. The Countywide Pedestrian Plan includes a set of Capital Projects, Pedestrian Programs, and Planning Efforts of Countywide Significance.

### **Capital Projects**

The capital projects in the Plan are focused in areas of countywide significance, which are defined as "places that serve pedestrians traveling to and from a variety of locations through Alameda County and beyond." The three targeted areas and corresponding project types are:

1. Access to Transit – Projects improve access to key transit within ½ mile of a transit stop or line. Key transit currently includes 187 miles of bus trunklines and 32 rail and ferry stations/stops.
2. Access to and within Activity Centers – Projects improve access to and within downtowns and major commercial districts, plus provide access to about 100 other major activity centers.
3. Inter-jurisdictional Trails – All trails that link populated areas are included. The two main examples are the Bay Trail (of which approximately 50 miles are not built in the county) and the Iron Horse Trail (of which 10 miles are not built).

## **Programs**

Programs within the Countywide Pedestrian Plan are focused on areas of countywide significance. Pedestrian programs fall into four general categories: 1) promotion, 2) education, 3) technical support for professionals to ensure that pedestrian plans and designs improve walkability, and 4) support for school and low-income area improvements. Although no Performance Measures have been identified yet for the Plan, progress has been made in implementing the Plan's programs in 2007/08. One example is the implementation of the Alameda County Safe Routes to Schools Program.

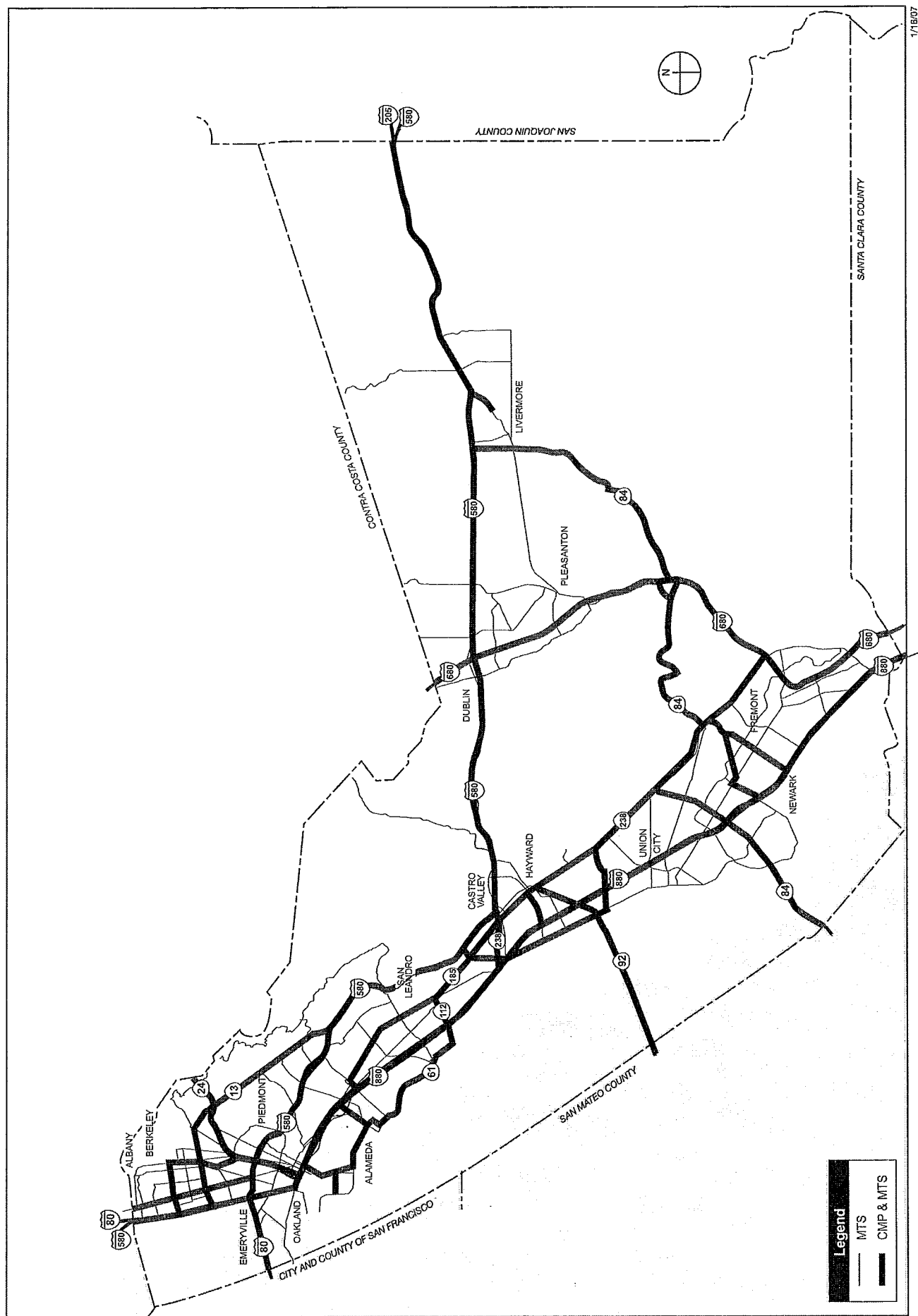
## **Planning Efforts**

In support of planning efforts of countywide significance, the Countywide Pedestrian Plan includes a goal to have each local jurisdiction in the County adopt a Pedestrian Plan by 2011. As of 2007/08, five of the county's 15 jurisdictions have adopted a stand-alone pedestrian plan or a combined pedestrian/bicycle plan, and five additional jurisdictions are in the process of developing either a stand-alone or combined plan.

The Alameda Countywide Strategic Pedestrian Plan, describing all of the countywide priorities, can be accessed on the ACTIA website at [www.actia2022.com](http://www.actia2022.com).

APPENDIX A  
**DESIGNATED ROADWAY SYSTEM  
OF THE CONGESTION MANAGEMENT PROGRAM  
AND METROPOLITAN TRANSPORTATION SYSTEM**

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### Figure A - MTS and CMP Roadway System

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**APPENDIX B**  
**METROPOLITAN TRANSPORTATION SYSTEM TRANSIT SYSTEM**

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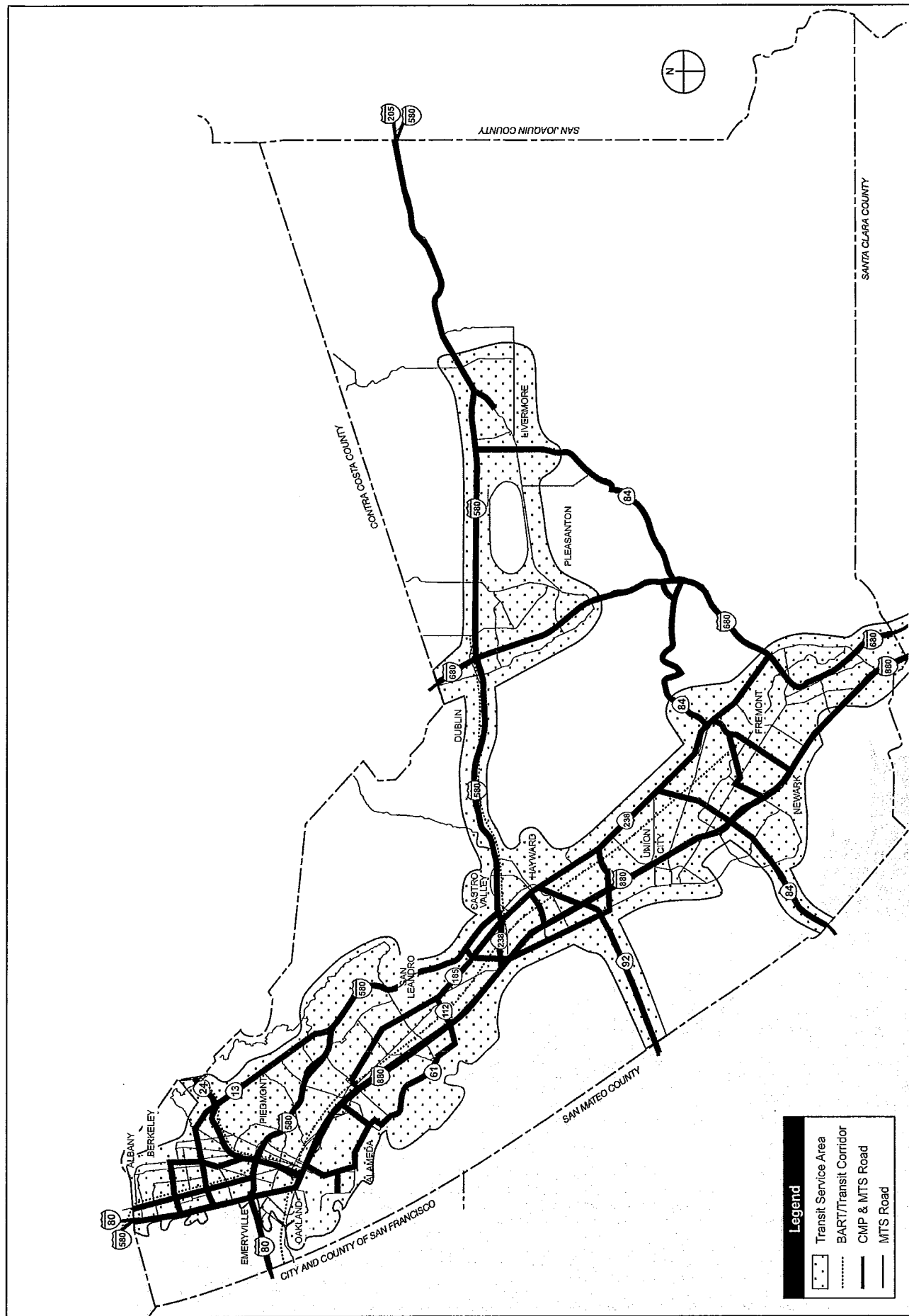


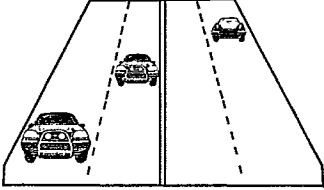
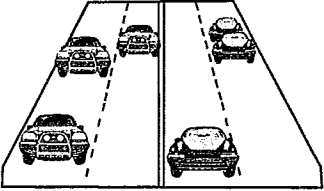
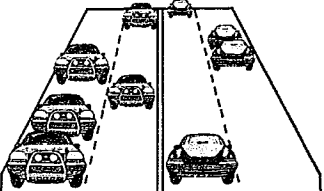
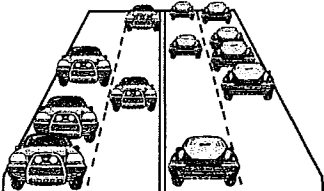
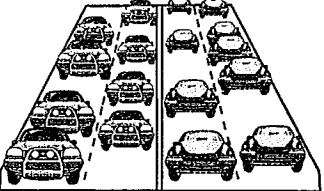
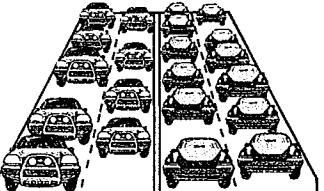
Figure B - MTS Transit System

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APPENDIX C  
**LEVEL OF SERVICE DEFINITIONS**

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# Level of Service Definitions

Level of Service	Flow Conditions	Delay	Service Rating
<b>A</b> 	Highest quality of service. Free traffic flow with low volumes. Little or no restriction on maneuverability or speed.	None	Good
<b>B</b> 	Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability.	None	Good
<b>C</b> 	Stable traffic flow, but less freedom to select speed or to change lanes.	Minimal	Adequate
<b>D</b> 	Approaching unstable flow. Speeds tolerable but subject to sudden and considerable variation. Less maneuverability and driver comfort.	Minimal	Adequate
<b>E</b> 	Unstable traffic flow and rapidly fluctuating speeds and flow rates. Low maneuverability and low driver comfort.	Significant	Poor
<b>F</b> 	Forced traffic flow. Speed and flow may drop to zero.	Considerable	Poor

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APPENDIX D

**Pavement Condition by Jurisdiction within Alameda County**

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JURISDICTION	County	Total Lane Miles	M & R Update	StreetSaver Version	Last Inspection	Year to Year PCI								Change	3-Year Moving Average			
						2001 PCI	2002 PCI	2003 PCI	2004 PCI	2005 PCI	2006 PCI	2007 PCI	2003		2004	2005	2006	2007
Alameda	Alameda	315.07	2008	Online	2007	76	75	68	65	64	60	64	73	69	66	63	63	
Alameda County	Alameda	1000.80	2007	Online	2006	79	74	75	63	71	72	69	76	71	70	69	71	
Albany	Alameda	59.12	2003	Online	2004	64	60	59	61	60	66	63	61	60	60	62	63	
Berkeley	Alameda	453.00	2008	Online	2008	66	59	63	67	58	61	60	63	63	63	62	60	
Dublin	Alameda	228.10	2007	Online	2008	70	67	81	79	78	82	80	73	76	79	80	80	
Emeryville	Alameda	47.09	2005	Online	2006	70	77	69	69	82	78	76	72	72	73	76	79	
Fremont	Alameda	1044.10	2008	Online	2006	72	77	72	71	71	68	66	74	73	71	70	68	
Hayward	Alameda	616.20	2007	Online	2006	68	69	65	67	67	69	68	67	67	66	68	68	
Livermore	Alameda	638.33	2008	Online	2008	74	79	75	79	80	79	77	76	78	78	79	79	
Newark	Alameda	251.06	2007	Online	2007	74	75	76	78	78	69	67	75	76	77	75	71	
Oakland **	Alameda	1974.30	2007	Online	2008	N/A	N/A	57	56	52	61	57	57	57	55	56	57	
Piedmont	Alameda	78.20	2006	Online	2007	73	66	67	67	66	69	67	69	67	67	67	67	
Pleasanton	Alameda	508.99	2007	Online	2005	68	68	65	73	74	75	76	67	69	71	74	75	
San Leandro	Alameda	389.50	2007	Online	2008	63	64	63	64	62	60	59	63	64	63	62	60	
Union City	Alameda	330.48	2006	Online	2007	N/A	N/A	N/A	N/A	76	75	75			76	76	75	
Ala Co & Jurisdicitions						7934												65
Regional		42020				66	65	63	62	64	65	66	1	65	63	64	65	

## Notes:

\* Insufficient data to determine PCI.

\*\* PCI has been correlated from an alternative condition scale to the PCI scale

Where "No Data Available" or 0 is indicated, the jurisdiction has not submitted a database in over four years.

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APPENDIX E  
**2007 Top 10 Congested Locations in Alameda County**

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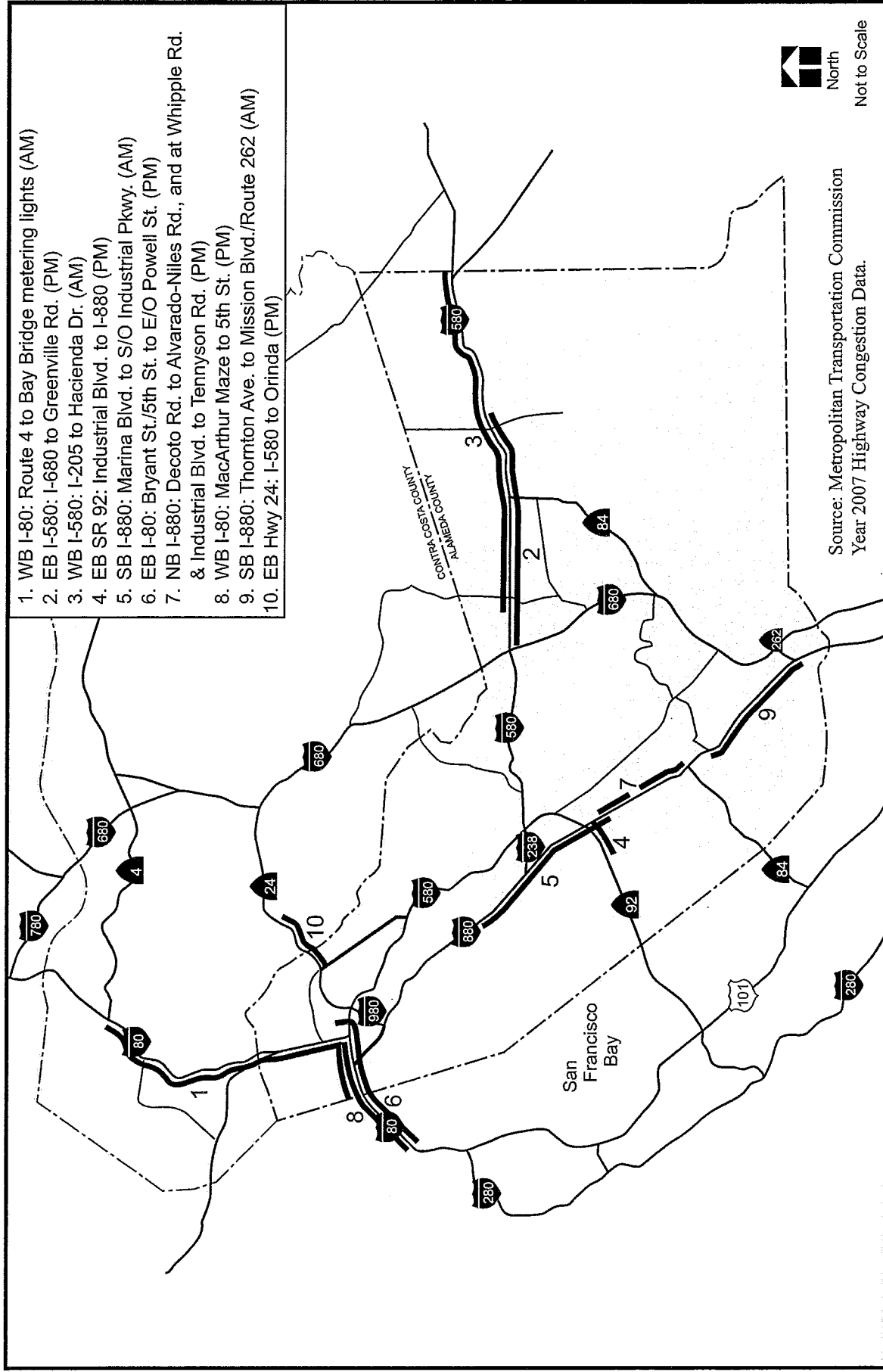


Figure E - 2007 Top 10 Congested Locations in Alameda County

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APPENDIX F  
**Countywide Bicycle Facilities**

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# Appendix F

## Table F-1

### High Priority Bicycle Projects in Countywide Bicycle Plan Progress in 2007-08 ANNUAL PROGRESS OF HIGH PRIORITY PROGRESS IN COUNTYWIDE BICYCLE PLAN

Jurisdiction	Project/ Segment #	Project Name	Roadway	Limits:		Miles	Progress 2007-08
				From, To			
1 Albany	59-A	Buchanan-Marin: Class 1 Bike Path	Buchanan	Buchanan Overcrossing to San Pablo Ave		0.6	RFP was issued in Fall 2007 for 35% PS&E and Environmental
2 Berkeley	11-AB, AC		Virginia & Ohlone Greenway	Albany/ Berkeley city limits to Milvia		1.4	None
	6-AK	9th Street Bicycle Boulevard Extension		Heinz to Emeryville			Cat. Ex. Adopted by Council in June 07 (ROW being aquired August 07)
3 Emeryville	46-AA	Emeryville bike/ped bridge, Class 1 new overpass	New Overcrossing	Shellmound to Horton		0.3	
4 Oakland	7-BB-BC	I-880 Corridor, Class 2 bike lane	12th Street	Oak/Lakeside to Fruitvale		2.7	Construction scheduled to begin in 2009 for Oak/Lakeside to 2nd Avenue (7-BB), Feasibility Studt underway for 2nd Ave to Fruitvale Ave (7-BC)
5 Alameda	51-SPR1B	Alameda to Oakland Bay Trail				1.3	Feasibility studt in process
6 San Leandro	1-BI	N. Alameda County, Bay Trail, Class 1 bike trail	Bay Trail	Marina Blvd to Fairway Drive		0.4	None
	5-BF						
				From Slough North to Slough South		0.1	Mitigates Neg Dec was adopted in June 2007 Design is substantially completed
7 ABAG	42-BF	San Leandro Slough Bridge-new bike/ped bridge	Bike/Ped Bridge	Slough, north to slough south		0.1	Mitigated Negative Declaration adopted June 2007; Design is substantially completed.
8 Alameda County	4-Z1-Z2	Doolittle/Lewelling Class 2 Bike Lane	Lewelling	Hesperian to East 14th		1.4	Hesperian to Meekland (Z-1)- Environmental complete; PSE 90%, Right of way 60%

Appendix F  
Table F-1

High Priority Bicycle Projects in Countywide Bicycle Plan

Progress in 2007 Highway	13-JC2	Central County, I-580/Foothills, Class 1 Mission Bike Trail	SPRR/BART tracks to Woodland	0.3	None
--------------------------	--------	---	------------------------------	-----	------

Jurisdiction	Project/ Segment #	Project Name	Roadway	Limits:	
				From, To	Miles Progress 2006-07
10 E. Bay Parks/UC Hayward	2-BJ	S. Alameda County, I-880 Corridor, Class 1 Bike Trail	I- Bay Trail	Eden Landing to Alameda Creek Bridge	3.0
11 Fremont	58-A	Fremont-Santa Clara, Class 2 Bike Lane	Fremont Blvd.	South Grimmer to SCC limits	3.8
12 Dublin	55-AA	Alamo Canal, I-580/I-680 Connector, Class 1 Bike Trail	I- Alamo Canal Trail	San Ramon Creek Trail to Alamo Canal Trail	0.2
13 Pleasanton	34-TB	Iron Horse Trail, Class 1/2	Iron Horse Trail	I-580 to Pleasanton City Limit	Completed 1 mile from Valley Avenue northwesterly to Santa Rita Road.
14 Livermore	37-TB2-TB9	Isabel Avenue Trail and Bike Lanes, Class 1/2	Jack London Blvd.	Jack London Blvd to Portola	The Bike lanes (Class 2 facility) across the proposed Isabel Interchange is designed and funded. The bike lanes will be constructed with the interchange project. It is anticipated that a contractor will be selected in 2009. There has been no progress on the multi-use trail (Class 1 facility). Grant funding was applied in the previous Measure B discretionary cycle for PS&E but was denied. It is anticipated that we will apply for grant funding in a future cycle.

Appendix F  
Table F-1

High Priority Bicycle Projects in Countywide Bicycle Plan

Progress In 2007-08	TA 05	West of Las Colinas/- 580	0.4	Trail constructed as part of a new development
<hr/>				
24 - AM TA				
Stoneridge Blvd - Jack London Connection				
<hr/>				
15 Union City	9-JE-JH	S. Alameda County, I- Union City 880 Corridor, Class Blvd. 1/Class 2	2.6	Homert to Alameda Creek Bridge

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**Appendix F, Table F-2****Countywide Bicycle Vision Network**Construction Progress in 2007-2008 **PLEASE UPDATE THIS 06/07 TABLE**

JURISDICTION	SEGMENT NAME	LIMITS – FROM, TO	LENGTH (MILES)	COUNTYWIDE BIKE PLAN SEGMENT #
Alameda County (unincorporated)	Castro Valley Blvd.	Villareal Dr – Eden Canyon	None	15-BH
Alameda County (unincorporated)	Dublin Canyon Rd	Eden Canyon – Pleasanton City	None	15-BI
City of Alameda	Fernside Blvd.	San Jose Ave – Bay Farm Island Bicycle Bridge	0.3	4-K1
City of Albany			None	
City of Berkeley	None		None	
City of Dublin	Dublin Blvd	1)Dublin Ct to Dougherty Rd 2)Hacienda Dr to Tassajara Rd	1.0	15-BR, 15-BU 15-BV
City of Emeryville	65th	From Hollis to Greenway	2 miles of Class 2 lanes	#45 – #AC1
City of Fremont	1) Paseo Padre Pkwy Segment  2) Walnut Avenue Segment	1)From Mowry Ave to just south of Sailway Drive, 2) from Paseo Padre Pkwy to Fremont Blvd	1) 1.0 mile installed  2) 0.5 miles Class 2 bike lanes in place	1) JD  2) SPR 6
City of Hayward			None	
City of Livermore			None	
City of Newark	None		None	
City of Oakland	Market Street	14 <sup>th</sup> St to 18 <sup>th</sup> St	0.2	7-AX, 7-AW (partial)
	Alameda Ave	Fruitvale Ave to Howard St	0.4 miles	1-AV
	Doolittle Dr	Hegenberger Rd to Airport Access Rd	0.1 miles	4-01 (partial)
	66 <sup>th</sup> Ave Overcrossing	Oakport St to Bay Trail	0.5 miles	5-SPR1B (partial)
City of Piedmont			None	
City of	San Ramon-	Class 2 bike	0.5 miles	Project 28,

**Appendix F, Table F-2****Countywide Bicycle Vision Network**Construction Progress in 2007-2008 **PLEASE UPDATE THIS 06/07 TABLE**

Pleasanton	Foothill Rd, I-680 Corridor,	lanes completed.		Segment G
	BF	From Slough North to Slough South	Mitigated Neg Dec was adopted in June 2007. Design is substantially completed.	5
City of San Leandro				
City of Union City			None	

*\*The City of Alameda, as an example, has made progress constructing bike lanes adjoining those in the Countywide Bike Plan & in conducting studies and designs for projects in the Plan. However, this annual Performance Report only reports progress on the construction of projects that are not on the High Priority list in the County Bike Plan.*



APPENDIX G  
**TRANSIT ROUTING BY OPERATOR**



Table G.1—Directional Route Miles by Operator in Alameda County<sup>1, 2</sup>

	01/	02/	03/	04/	05/	06/	07/
Transit Operator	2	3	4	5	6	7	8
AC Transit <sup>3</sup>	1,194	1,156	1,108	1,190	1,150	1,200	1,306
BART <sup>4</sup>	97	97	97	97	97	97	97
LAVTA	385	385	358	430	309	355.6	305.8
Union City	45	45	45	45	45	42	45
ACE	90	90	90	90	90	90	90
Capital Corridor	66	66	66	66	66	66	66
TOTAL	1,877	1,839	1,764	1,918	1,757	1,851	1,917.8

1. MTC, Statistical Summary of Bay Area Transit Operators 2001. FY 2001/02-2003-04 data is provided by the transit operators by special request.

2. Directional Route Miles by Operator is a measure of surface area (roadway and trackway) served. For example, a one-mile segment of road or trackway over which transit operates in both directions would be reported as two miles, while a one-mile segment traversed by vehicles six times in the same direction would be counted as one mile.

3. AC Transit data adjusted to deduct Contra Costa County. Based on hours of operating service in Alameda County and population served by AC Transit, total numbers were reduced by 12 percent.

4. BART data adjusted to deduct San Francisco, Contra Costa, and San Mateo Counties. Data represents actual two-way route miles in Alameda County.

**Table G.2—Total Vehicle Miles by Operator in Alameda County (in 000's) <sup>1</sup>**

Total Vehicle Miles	01/ 2	02/ 3	03/ 4	04/ 5	05/ 6	06/ 7	07/ 8
AC							
Transit <sup>2</sup>	23,487	20,556	19,490	21,278	18,655	22,107	22,038
BART <sup>3</sup>	31,177	26,732	29,701	30,002	31,265	32,530	33,677
LAVTA	2,137	2,137	2,127	1,932	1,805	2,012	1,975
Union City	538	538	538	546	546	505	478
ACE (4)	123	411	411	411	411	411	438
<b>TOTAL</b>	<b>59,462</b>	<b>50,374</b>	<b>52,267</b>	<b>54,169</b>	<b>52,682</b>	<b>57,565</b>	<b>58,606</b>

1. MTC, Statistical Summary of Bay Area Transit Operators October 2001. FY 2001/02-2003-04 data is provided by the transit operators by special request.

2. AC Transit data adjusted to deduct Contra Costa County. Based on hours of operating service in Alameda County and population served by numbers were reduced by 12 percent.

3. BART data adjusted to deduct San Francisco and Contra Costa County. Based on trackway miles in Alameda County, total numbers reduced by 51 percent for fiscal years 1990 (FY 90 )through FY 95, 53 percent for FY 96, 48 percent for FY 97 and FY98, and 48 percent in FY 99-02, and 51 percent for FY03 through FY08.

4. ACE calculations were based on 45.45 miles in Alameda County.

**Table G.3—Service Coverage By Operator in Alameda County (in 000's)** <sup>1,2</sup>

	01/ 2	02/ 3	03/ 4	04/ 5	05/ 6	06/ 7	07/ 8
AC							
Transit <sup>3</sup>	19.6	17.8	17.6	17.9	16.2	18.4	17
BART <sup>4</sup>	321.4	275.6	306.2	309.1	322.3	335.4	347.2
LAVIA	5.9	5.5	5.1	4.5	5.1	5.1	6.5
Union City	12	12	12	12	12	12	12
ACE	4.1	1.4	1.4	1.4	1.4	1.4	2.1
TOTAL	362.9	312.3	342.3	344.9	357	372.3	385

1. MTC, Statistical Summary of Bay Area Transit Operators 2001. Data since FY 2001/02 is provided by the transit operators by special request.

2. Total Vehicle Miles/Directional Route Mile. A measure of the amount of service provided, including number of routes and frequency, on the transit system. For instance, a one-mile segment traversed by vehicles six times in the same direction would be counted as six miles.

3. AC Transit data adjusted to deduct Contra Costa County. Based on hours of operating service in Alameda County and population served by AC Transit, total numbers were reduced by 12 percent.

4. BART data adjusted to deduct San Francisco and Contra Costa County. Based on trackway miles in Alameda County, total numbers reduced by 51 percent for fiscal years 1990 (FY 90 )through FY 95, 53 percent for FY 96, 48 percent for FY 97 and 98, and 48 percent in FY 99-02, and 51 percent in FY 03 through FY 08.

**Table G.4—Total Annual Passenger Boardings (in 000's) <sup>1</sup>**

	01/ 2	02/ 3	03/ 4	04/ 5	05/ 6	06/ 7	07/ 8
AC Transit <sup>2</sup>	62,104	54,612	56,721	56,680	58,927	58,934	57,370
BART <sup>3</sup>	34,601	31,892	32,586	32,946	34,939	36,297	37,829
LAVTA	2,037	1,922	1,936	1,938	2,037	2,136	2,234
Union City	477	442	431	381	398	421	439
Alameda-Oakland Ferry	444	426	420	382	426	443	459
Alameda Harbor Bay Ferry	130	106	112	84	132	134	145
ACE	804	665	616	641	642	708	805
<b>TOTAL</b>	<b>100,597</b>	<b>90,065</b>	<b>92,822</b>	<b>93,052</b>	<b>97,501</b>	<b>99,073</b>	<b>99,281</b>

NA = Not Available.

1. MTC, Statistical Summary of Bay Area Transit Operators October 2003. Data since FY 2001/02 is provided by the transit operators by special request.

2. AC Transit data adjusted to deduct Contra Costa County. Based on hours of operating service in Alameda County and population served by AC Transit, total numbers were reduced by 12 percent. Total Systemwide Passenger Boardings were taken from Table 13 and reduced by 12 percent to represent Alameda County.

3. BART data adjusted to represent Alameda County passenger boardings by annualizing the Average Weekday Passenger Boardings within Alameda County found in Table 18. An annualization factor of 290 was used for fiscal years 89/90 through 90/00 and 291 for fiscal year 00/01 through 02, and 296 for FY 02-05, 298 for FY06, and 300 for FY07-FY08.